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ABSTRACT

The assessment of school readiness needs to include all aspects of children's early learning and indicators of family/community activities that support children's development. This study used a holistic approach to set baseline benchmarks on factors related to school readiness for entering kindergarten children, and to engage schools in Washington County, Oregon in discussing the nature of school readiness and to empower them to collect information independently. Data were collected on 413 entering kindergartners and their families during September 1997 in six public school and two private programs. Factor analyses yielded 17 child-, family-, school-, or community-based factors related to an acceptable performance level, including: (1) child cognitive development; (2) physical well-being: (3) motor development; (4) social development; (5) television viewing habits: (6) family reading habits; (7) family activities and routines; (8) parental involvement in child's education; (9) family involvement and empowerment; (10) coordinated transition to kindergarten; (11) access to high quality child care; and (12) collaborative and integrated services in community offered through school. Six factors identified a potential need and area for intervention: emerging literacy development--not being read to and/or exposed to books enough to support typical early literacy; family access to basic resources--unmet needs in mental and physical health and parent education; developmentally appropriate curriculum, assessment, and instruction; culturally and linguistically appropriate education; collaborative and integrated services--unmet needs in housing, adult basic education, and employment supports; and access to parent education. Data were used to create a list of community strengths and a profile of a neighborhood in need. (KB)

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# Establishing a Baseline for School Readiness of Washington County Children Entering Kindergarten

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# Executive Summary

The Washington County Commission on Children and Families endorsed an effort to define potential baseline indicators to help assess the school readiness of children in the County. The Commission desired a complete picture of Washington County's capacity to support early childhood development and thus, insure school success in the early years. It recognized the importance of including an array of indicators of child, family, school, and community activities affecting children's school adjustment and success in the early years. A model comprised of 17 factors describing a systems approach to how entering kindergarten-age children are supported in reaching normal developmental levels was designed along with methods to measure the factors in an earlier feasibility study. These factors were found to be independent variables with each one contributing something unique to school readiness while still being related to the whole concept. This report details the full study based on the model.

Although setting baseline benchmarks on factors related to school readiness was the primary focus of this study, a second goal was to engage schools in a conversation about the complex nature of school readiness and empower them to collect information on their own. To meet these dual goals, data was collected on 413 entering kindergarten children and their families during September of 1997 by staff in six public school and two private programs. The schools represent the range of schools, children, and families in the County.

The data was analyzed to yield a set of 17 factors detailing the percentage of children in the study sample who are above an "acceptable level". The acceptable level was based on national norms, where available, or professional literature. Together the percentages and their unique distribution characteristics tell the story of how the County system is working to contribute to school readiness. The achieved factor scores range from 5.6% to 95.1% of children who experience environments fully supporting their development and smooth entry into formal schooling.

Six factors and their distributions were found to be either at an low achieved score or had subpopulations that were low. These six factors were from all four components of the model used to organize and guide the study: child, family, school, and community. Recommendations are made describing how to work on each of these six factors in a way that both can focus attention to a need and create possible synergy with the rest of the system. The six factors and recommendations are:

> Factor 3: Children's Emerging Literacy Development. Factor 3 has an attained score of 48.9%. The data suggests children are not being read to and/or exposed to books enough to support typical early literacy development. There does not appear to be a simple cause for low scores. More reading, less television and video tapes, more parental and child care education on how to read to young children, and

work with libraries to increase Spanish book availability and circulation is a beginning.

Factor 5: Family Access to Basic Resources
Although 67.8% of the families report having the bulk of their basic needs met, as many as 48% of the families report specific unmet needs in some school neighborhoods. The unmet needs are in three clusters: mental health (drug and alcohol, general mental health, violence prevention); health (vision care, dental care); and, parent education. Although, not all school neighborhoods are this extreme, those that have this level of need are good examples of system difficulties. Unpredictable support makes it difficult to ensure that the young children in these neighborhoods can develop well.

Factor 9: Developmentally Appropriate Curriculum, Assessment, and Instruction
Factor 9 has an attained score of 5.6%. Current definitions of kindergarten appear to be different in each classroom, school, district, and parent community. Finding a match between school and home expectations for kindergarten programs can make the transition into the first year of formal school smoother for schools and families. Additionally, kindergarten has an unique position in most County schools: it is part of two educational systems: early childhood and elementary. Policy makers in community and school jurisdictions need to think seriously about acknowledging the "push-me-pull-you" interaction of these two systems. Keeping perspective can offer a balance as solutions to a better match are sought. For example, the current school funding climate and the push to teach to standards increases pressure on schools to teach in ways that do not reflect what research shows to be best kindergarten practice. Resolutions accommodating both the early childhood and elementary approaches and match family expectations will take time to find and implement.

Factor 10: Culturally and Linguistically Appropriate Education
Factor 10 is at an attained score of 22.6%. In conjunction with a focus on defining kindergarten, schools could benefit from dialogue with families about social and cultural expectations. Neither school or family viewpoints are right or wrong, but when they are different children can have a difficult time making a smooth transition into school. The data shows this mutual understanding is present in the Spanish speaking community and can develop more broadly.

Factor 14: Collaborative and Integrated Services
Factor 14 has an attained score of 28.5%. Of all the six readiness factors recommended for work, this one is likely to be the easiest to improve. The data in Factor 5 (Access to Basic Resources) suggests that very few families need the three services that are not readily available through school connections. The three services in question in Factor 14 (housing, adult basic education, and employment supports) are typical services in low income programs like Even Start and Head Start. Having collaborative agreements with "early-start-type" programs would be an

easy way for schools to fill this small but critical referral. Connecting social service agencies to schools can ensure that all schools can refer families to all social service agencies. It would pay off with stronger community safety nets if and when economic changes like plant closures or layoffs occur.

Factor 15: Access to Parent Education
Factor 15 has an attained score of 31.2%. The data for Factor 15 was measured at the school site even though it is a community-wide function. The data shows the one parent education service most often lacking at school sites is parent education classes. An ideas for innovative parenting education need to be generated in school and community groups that look beyond traditional sign-up classes.

Finally, two closing lessons from the data are offered: a profile of a neighborhood in need and a list of community strengths that can be used to improve the County systems supporting the development of young children and smoothly moving them into formal school.

# Introduction

*Benchmark Goal: Ensure the Appropriate Cognitive, Physical, and Social and Emotional Readiness of Children Entering Kindergarten*

In the early 1990's, the State of Oregon adopted a system of social progress goals, called benchmarks, to guide social policy and programs over the next decade. The benchmarks address people's well-being, quality of life, and the economy. These benchmarks are based on the premise that Oregon will develop the best future for its people if Oregonians share common goals, develop strategies to reach these goals, and track progress toward these goals. State government has adopted these benchmarks as tools for stating objectives, setting program and budget priorities, and measuring performance (Oregon Progress Board, 1994).

To nurture children and strengthen families, the Washington County Commission on Children and Families has identified a smaller set of the benchmarks as guides to its policies, planning, and programming. Three benchmarks relating to teen pregnancy, drug-free teens, and early childhood development have been called urgent benchmarks because "failure to accomplish them in the near term threatens our ability to achieve our overall vision for Oregon" (Oregon Progress Board, 1994, p. 19).

## History of Oregon and Washington County School Readiness Benchmark Work

A baseline for the benchmarks must be established before progress can be charted. In 1994, an Oregon school readiness benchmark study was conducted on two aspects of school readiness: physical well-being and language and literacy development. That study, although an important stepping stone, did not yield county-level data useful for guiding policy nor did it address the myriad factors related to school readiness (Jewett, Arrasmith, and Manigo, 1994).

In July 1995, the Washington County Commission on Children and Families devoted effort to defining potential baseline interim indicators to help assess the school readiness of children in the County. The Commission desired a complete picture of Washington County's capacity to support early childhood development and thus, insure school success in the early years. It recognized the importance of including an array of indicators of child, family, school, and community activities affecting children's school adjustment and success in the early years (Pratt, Katzev, Moran, Jewett, Eddy, and Martin, 1995).

In 1996, the County Commission on Children and Families funded a feasibility study to look at appropriate methodology to establish a school readiness benchmark based on multiple indicators. The feasibility study created and

field tested an ecological model of factors comprising school readiness and methods to measure them (Jewett, Katzev, Morgan, and Severeide, 1996).

During the 1997-98 school year a full study was conducted using the methods outlined in the feasibility study. This document presents the findings. Together, the factors comprising school readiness and their distribution characteristics illustrate how families, schools, and community services are contributing to school readiness and developmental well-being of entering kindergarten-age children in the County.

## National Context

Washington County and the State of Oregon are not alone in seeking to ensure healthy early childhood development. In 1994, Federal legislation entitled Goals 2000: Educate America Act was passed, asking states and schools to reinvent public education in pursuit of eight national goals. The first goal states that, "By the year 2000, all children in America will start school ready to learn. These community-wide objectives have been framed with the awareness that a large number of the very young do not enjoy a childhood most adults would call desirable . . . nor do they experience the type of parental support that enriches childhood" (National Education Goals Panel, 1992, p. 18).

Although other communities are struggling with how to measure and chart progress toward this school readiness, no published set of benchmarks or field tested methods have been set outside of Oregon (Love, Aber, Brooks-Gunn, 1994; Geasler, April 1996-November 1997, personal communication; and Zapp, February 1998, personal communication). This report is the cutting edge of national information.

## Overview of the Study and Report

This study is based on the approach presented in the 1996 feasibility study (Jewett, Katzev, Morgan, and Severeide, 1996). The heart of the model recognizes that school readiness is multidimensional. It is a complex set of independent, but connected variables. An overview of the approach is presented in a section of the report about the model.

The initial task for this study was to enlist the support of public school districts and private programs to find a sample representing the range of schools, children, and families in the County. A study sample was defined and agreements with the schools were formed. A description of the participating schools and families is presented in the study sample section of this paper.

These school agreements were critical for defining the study sample, but also because participating schools agreed to collect all the data. The first week of school was set aside to individually interview each child and family. Participation required a large commitment of time from the schools. To ensure schools had a say in the data they collected, an opportunity to review the proposed instruments and make suggestions was offered. Once all suggestions were made, the instruments were finalized and staff were trained. Data was collected by school staff in September 1997, entered in October and November 1997. Analysis was done over the next several months. Information about each phase in the data collection and the analysis process is outlined in the methods section.

The heart of the report is in the result and discussion sections. The data was analyzed to yield the percentage of people in the study sample who are above an "acceptable level" on 17 factors comprising school readiness. The acceptable level was based on national norms, where available, or professional literature. Together the percentages and their distributions tell the story of how the County system is working to assist families, schools, and the community to ensure the developmental well-being of children as they enter into and begin kindergarten. Thoughts about refinements in the system are offered as policy suggestions.

# Developmental Readiness for School: An Ecological Model

Developmental readiness for school extends far beyond simple academic skills such as counting, identifying colors, or naming letters. All aspects of children's early learning, development and functioning need to be assessed. In addition, national experts argue that early childhood development cannot be assessed "without reference to how children's behavior and development are supported and what children should be ready for" (Love, Aber, and Brooks-Gunn, 1994, p. 3). Indicators of family and community activities that support children's development and aspects of schools that insure early learning success must also be assessed.

A complete picture of Washington County's capacity to support early childhood development and insure children's school success can be gained by using an ecological perspective. This view suggests that the human ecosystem is similar to natural ecology, with various forces at differing levels of the environment, interacting to affect and influence development (Bronfenbrenner, 1986; Garbarino, 1992).

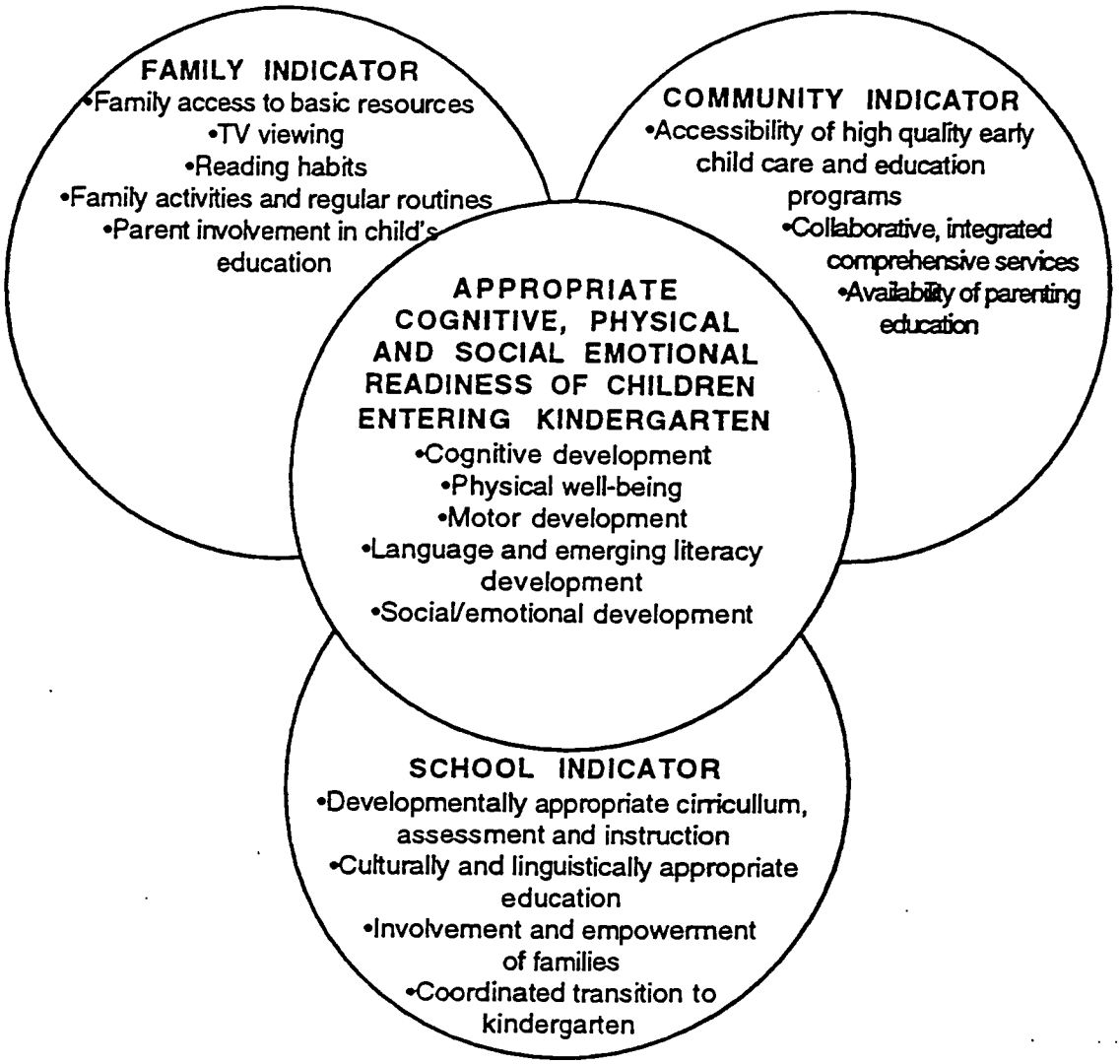
An ecosystem model of school readiness requires direct measurement of children's early learning, development and abilities. It also requires measurement of the family, community, and school factors supportive of that development. As shown in Figure 1 on page 5, a diagram of the model uses overlapping spheres to illustrate the reciprocal relationships that exist between children's developmental readiness for school and various family, community, and school activities. Key readiness factors are identified for each sphere.

This approach is holistic while still collecting concrete data to paint the complex picture representing Washington County communities. In theory, data on early childhood development and these contextual factors provides policy makers with sound information on the status of various community systems necessary for early school success (Love, et al, 1994; Regional Educational Laboratories Early Childhood Network, 1993).

The model was designed expressly for this study based on school readiness literature, but no prior definitive empirical test had been. During the analysis phase of this study, the independent nature of the factors was tested using a factor analysis. This test shows each readiness factor providing unique information. Together, the readiness factors integrate the big idea of readiness and are a valid way to guide the setting of benchmarks used to direct social policy. This is a critical point for both credibility of the model and the instruments based on it. The model works in theory as well as in fact.

Ecosystem Model of School Readiness:
Factors Contributing to Children's School Success in the Early Years

Figure 1




As a result, the general methods used in the study can be confidently repeated in the future to chart progress in the community on the host of factors comprising school readiness. As the National Goal's Technical Planning Group (1993, p. 5) cautioned, "we do not believe that there is a single magic bullet threshold above which children are deemed developmentally fit (ready) and below which they are deemed unfit (unready) for school entrance".

# Study Sample

Knowing who was studied and why they were selected is important whenever study conclusions are applied to a larger population. The method used to select this study sample is best known as stratified, targeted sampling. Since random selection was not used, the sample must be considered a best-guess proxy for the community at large - an important caution when interpreting the data. Although this approach may be considered scientifically limited by some, there are many practical and technical reasons for using this approach. The most central is that the approach gives more bang for the policy setting dollar and is still within the bounds of sound statistical interpretation (Cochren, 1982). The rationale and process for the study sample selection and a description of the schools and families is presented in this section.

## Rationale for School Selection

The primary goal of the study was to gather valid information on the readiness factors outlined in the model at a reasonable cost. A sample size of 400 representative children and families was the target with each participating school contributing their entire entering kindergarten cohort. This sample size is sufficient for sub-sample and school-level analyses. However, a secondary goal was to start a dialogue with local schools about general school readiness and their own site-specific readiness issues, and to empower them to collect their own data. These double goals increase the likelihood that schools and community organizations have the knowledge and desire to mutually support changes leading to improved developmental well-being in young children.

To this end, the study sample needed to include of a set of representative schools willing to collect child and family data on their entire entering kindergarten as part of their regular work load. Schools were sought to represent specific County demographic ranges:

- geographic locations;
- size of school;
- size of community;
- public and private school status;
- delivery format of kindergartens, e.g., half-day, full day, alternate day;
- socio-economic circumstances, as measured by free and reduce lunch;
- home language of families;
- race/ethnicity of families;
- family structure and background of young families; and,
- length of County residence.

## Description of the Schools

All seven public school districts in the County were invited to recommend schools that fit the above profiles. Four public school districts identified six willing schools. Two private schools were then sought to represent populations components missing in the sample. The school characteristics are described in Table 1.

School Demographics
Table 1

| School | Public/ Private | Community Size | Number of Children In Study | Student Size | Predominate Language | Free & Reduced Lunch |
|---|---|---|---|---|---|---|
| 1 | Public | Rural | 47 | 400-600 | English | 20-25% |
| 2 | Public | Small Town | 33 | 200-400 | Spanish | Over 80% |
| 3 | Public | Small Town | 65 | 400-600 | Mixed | 40% |
| 4 | Public | Suburban | 87 | over 600 | Mixed | 20-25% |
| 6 * | Public | Small Town | 108 | over 600 | English | 10% |
| 7 | Public | Small Town | 68 | 400-600 | English | 20-25% |
| 8 | Private | Suburban | 13 | under 200 | English | 0% |
| 9 | Private | Suburban | 11 | under 200 | English | 0% |
| Overall | 6 Public<br>2 Private | 1 Rural<br>4 Small Town<br>3 Suburban | total: 432<br>range: 11-108<br>mean: 54 | 3 Small<br>3 Medium<br>2 Large | 5 English<br>1 Spanish<br>2 Mixed | 3 @ 0-10%<br>3 @ 20-25%<br>1 @ 40%<br>1 @ 80% |

* There is no school #5.

An interesting highlight in these schools reflects a change in daily scheduling occurring across the country. At one time, kindergarten was typically a half-day program. But only 2 of the sample schools offer this schedule. One school is full-day, following typical elementary school hours. Three schools have full-day, alternate-day programs - a pattern which appears to be growing in Oregon schools. Two schools (the private schools) offer a full-day, complete wrap-around child care schedule. There is a great deal of controversy over how and when to offer variations to a traditional half day and what effect the change has on social and academic outcomes for children (Gullo, 1986).

## Description of Children and Families

Together, 413 families and their entering kindergarten-age children completed all test materials. A characterization of the sample is in Table 2.

Family Demographics
Table 2

| Category | Number | % |
|---|---|---|
| *Racial/Ethnic Background* | | |
| • White | 321 | 78% |
| • Hispanic | 45 | 11% |
| • Asian/Pacific Islander | 12 | 03% |
| • Native American | 3 | 01% |
| • Other (a diverse mix) | 32 | 07% |
| Two Children In Home | 269 | 65% |
| *Education Level of Parents* | | |
| • mother completed high school | 178 | 43% |
| • father completed high school | 206 | 50% |
| Two Adults in Home | 330 | 80% |
| *Home Language* | | |
| • English | 367 | 87% |
| • Spanish | 33 | 08% |
| • Other (a diverse mix) | 13 | 05% |
| *Length of County Residence* | | |
| • 6 years or less | 206 | 50% |
| • more than 6 years | 207 | 50% |

# Methods

After schools were selected, the participating staff had an opportunity to review all instruments and make recommendations for refinements or additions. Participating schools looked forward to site-specific information about the families and children they served. These schools were in the best position to answer questions about the instruments and testing protocol: a) are there any questions that could raise a red flag for parents and undermine the project? as well as, b) were there missing questions? And, as users of the information, they could provide a last practical level of critique begun by the original advisory committee during the feasibility study.

The participating staff recommended adding an important question on vision care to the list of basic family needs assessed and also made useful suggestions for wording on Family Questionnaire items. They offered thoughts on designing test administration protocols that would work for schools and yield high quality data. Finally, participating schools were able to pinpoint which forms and additional family letters should be translated into Spanish.

After the instruments were finalized and translated into Spanish, teachers were trained, data was collected and entered, and the analysis process was started. All final instruments and translated materials are on file in the Commission office as part of the technical materials. This section details methodological steps.

## Training Teachers

Two training sessions were held during the summer of 1997. All participating school staff attended one of them. The data collection staff were typically teachers and assistants. However, each school assigned the number and type of staff they thought most appropriate for the project. Other types of assigned staff were Educational Coordinators, English as Second Language teachers and assistants, Special Education teachers, and regular substitutes who were hired to work on the effort by the districts. Schools identified internal staff to do all non-English assessments.

The summer time commitment by the staff was honored in two ways. University credit was offered for those that elected to pay for the credit fee. And, participants were paid their contracted hourly rate for training hours.

The training required a full day and included a project overview, practice with each instrument, and a review of protocols for: confidentially policies; subject coding; test administration procedures; and, parent permission slips. Each participating staff member was trained in general protocol and administration of each instrument regardless of what instrument they were assigned at the school site. This was done so that all data collectors could fill in, if needed, and so they could all explain the entire process to parents who asked for details. It also extended information about school readiness to more school personnel and

ensured all data collectors understood the whole process. A training packet is on file in the Commission office with the technical materials. A summary of the instruments is in Figure 2 on page 12.

## Data Collection Process

Each school designed their own testing schedules and made individual appointments with families. The testing was commonly done in the first week of school and used as an individualized introduction to school. Each family was given approximately one hour of staff time, with 30 minutes for each child and 30 minutes for each parent, or set of parents.

### *Families*

A family questionnaire seeking general information about families and children and beliefs about school was done face-to-face with each parent in their primary language. A school staff member asked the questions and wrote down the answers while parents read along with their own copy of the form. At the end of each family interview, the family member was asked to fill out a more personal form about family resources without their name, place it in an envelop, and put it in a box in the room. This two-step process of a face-to-face interview and an anonymous survey provided a way to obtain consistent data on the questionnaire, time for families and school staff to have a one-to-one conversation to help build a positive relationship, and maintain families' comfort level on potentially touchy topics during a time when families and school personnel were just getting to know each other. Since the return rate on the optional family resource form was 407 out of 413, the process appeared to work as intended.

### *Children*

Each child was individually tested according to a standard test protocol. The instruments were administered in the home language of the child. Spanish language materials were translated ahead of time and the few other languages were done through interpreters with the English forms. A few teachers elected to add a few items of their own to the end of the formal battery to take full advantage of having the child alone without the distractions of the rest of the class.

### *Teachers and Principals*

School surveys were done in writing by the appropriate person. Each survey took approximately 30 minutes and was done between September 1 and 30, 1997.

## Data Entry Process

During October and November 1997, answers were entered into a data base that visually matched the forms. The data from one type of form was entered prior to starting a new set. Daily error rates were calculated by double entry of a set number of randomly pulled forms. Error rates ranged from 0.0000 to 0.0170 with the mean of 0.0043. Specifics are available on file in the Commission office in the technical report.

## Description of Instruments Recommended For Assessing Developmental Readiness for School in Washington County

Figure 2

| Child Instruments | Description |
|---|---|
| *Early Screening Inventory* | The *Early Screening Inventory* is a short, easy-to-administer, standardized inventory well suited for benchmark data. It measures cognition, motor skills, and language development. It has high technical qualities and is available in Spanish and translates to other languages well. Approximate administration time is 15 minutes. |
| *Shell K* | One subtest of the *Shell K*, an emergent literacy battery, was recommended for this study - basic concepts about books and print. It is a proxy of early literacy development, and uses limited language, making it less likely to have English language structure bias as well as making it easy to translate. Approximate administration time is 5 minutes. |
| *Your Child's Qualities (Parent and Teacher Versions)* | A set of commonly discussed aspects of social emotional development and approaches to group social settings based on research were selected for a checklist specifically designed for this project. The checklist uses concrete examples of each item helping ensure respondents reliably answer questions. Approximate time is 5 minutes. It is part of the teacher and parent surveys. |
| *Your Child's Health* | A set of modified questions taken from other studies about health history were compiled for parents to answer. This set of questions ask only the most relevant questions and avoids pitfalls of cultural values about how and from whom families seek health services. Approximate administration time is 2 minutes. It is part of the parent survey. |

| Family Instrument | Description |
|---|---|
| Family Questionnaire | In addition to basic demographic data and questions about a child's health and social qualities, each family was asked questions about family activities and routines, access to and satisfaction with child care, access to resources in the community, and involvement with the school. Approximate administration time is 30 minutes . |

| School Instruments | Description |
|---|---|
| Principal Survey | Principals was responsible for providing information on school demographics and community context data, kindergarten teacher hiring and inservice practices, family support activities at or through the school, and details about any school entry plan. Approximate administration time is 30 minutes . |
| Teacher Survey | Each participating teacher was asked to complete a survey that describes their program, school transition activities, their personal view of school readiness., and teacher demographic data. Approximate administration time is 30 minutes. |

## Data Analysis

The ecological model was the guide for breaking down the questions in the instrument package into the benchmark readiness factors. Based on the content, questions was assigned to a readiness factor. Factor scores were expressed on a zero to one scale to facilatate comparisons.

Once the factor compositions were designed, an acceptable level was determined for each one. These were arrived at by applying a national norm, when available, or using the professional literature for determining best practice. If there was controversy or question about a score, input was sought from advisory groups.

The multiple steps taken to compose the readiness factors mean that each factor's acceptable level is calculated from a group of scores with many perspectives, not just one item or one viewpoint. This reduces the possibility of errors in saying the children, families, schools, or community services are ready or unready based on one test score or step. The formulas and details of how the acceptable levels were set is available in the technical report.

A separate Empirical Cumulative Distribution Function (ECDF) showing the acceptable score and the unique distribution of the scores on each factor was generated. ECDFs are an especially good way to show the shape of the distribution, the range of the scores, and the percent of the sample at each value (Conover, 1980). The ECDF was then used to determine if and when ad hoc analyses were warranted. Analysis were performed using SPSS v 6.1.1 (SPSS, Inc., Chicago, IL).

Benchmarks were set by calculating the percentage of the population above the acceptable level on each readiness factor. Although setting the benchmark was a primary goal of the study, the ECDFs were used to ensure the unique story behind each number could be told. These stories are critical to using the benchmarks to set sound social policy.

## Results and Initial Policy Implications

Setting benchmarks to guide social policy is best done from a systems perspective. The ecological model designed for this study offers guidance on how to interpret the data presented in this section. A series of systems questions based on the notion that the system needs to be understood and in control before you refine it are helpful to keep in mind as the results are reviewed:

- What place are we in now?
- How do the factors vary across the population studied?
- Is the system under control?
- Are there outliers in the distributions?
- Can we learn from both high or low outliers?
- Are there parts of the system that operate differently than others?
- What lessons are there to guide refinement of the system?
- How do factors link to each other and the whole?

The analysis in this study provides answers to these questions. To understand the data and use the information to answer the above questions, the results are presented in both graphic and numeric form by readiness factor. The graphs tell much of the story. Where warranted, second level analyses provide more detailed answers. A complete overview of each readiness factor with notes about distribution and policy implications is in the Benchmark Overview Appendix.

Factor 1
Child Cognitive Development
Children in the County follow a typical national pattern and are within the norm for cognitive development. However, there is a strong lower tail on the distribution suggesting children at the lower end of the distribution may not be well served by the system. When the distribution is examined at the school level, the two lowest income schools have lower scores than the total sample. Both of these schools also have large proportions of Spanish speaking children.

The factor percentages and comments about distribution issues are in table 3. The graphic displays of the overall ECDF and school distributions are in figures 3 and 4.

*Policy Implications For Factor 1: Child Cognitive Development*
Some children with special needs are hard to identify prior to school. So, both improved Child Find and improved early childhood special support in grades K-1 are likely to reduce the number in the low end and/or their optimal development before and shortly after school entry. In addition, the families in the two lower income level schools may benefit from parenting education

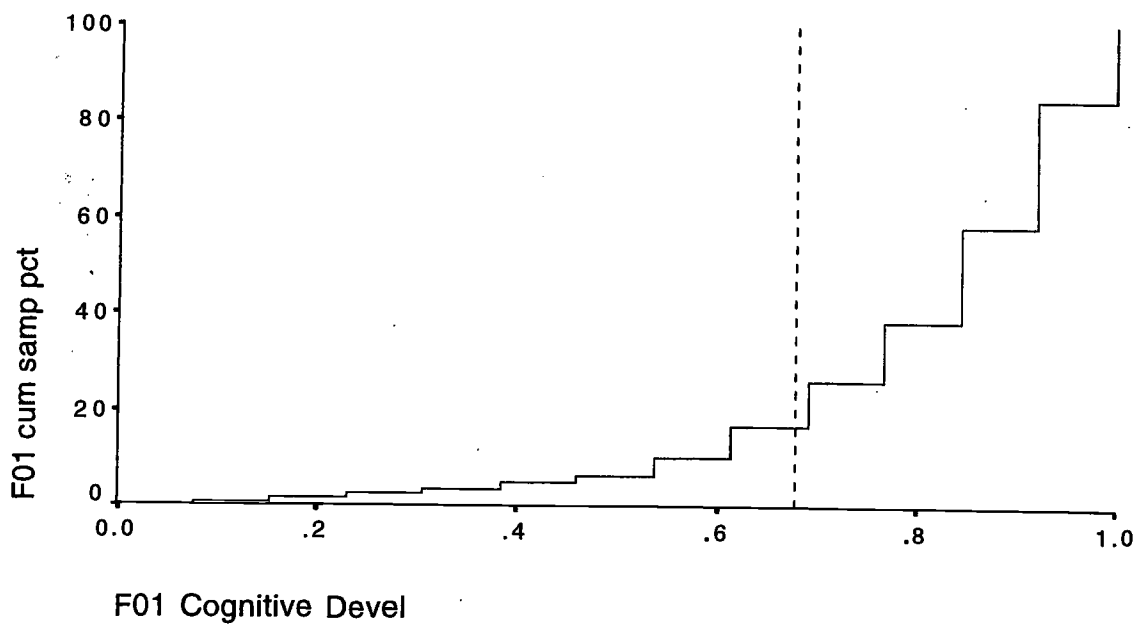
information to help them stimulate young children's general cognitive development.

Factor 1: Cognitive Development of Children In The Total Sample
Table 3

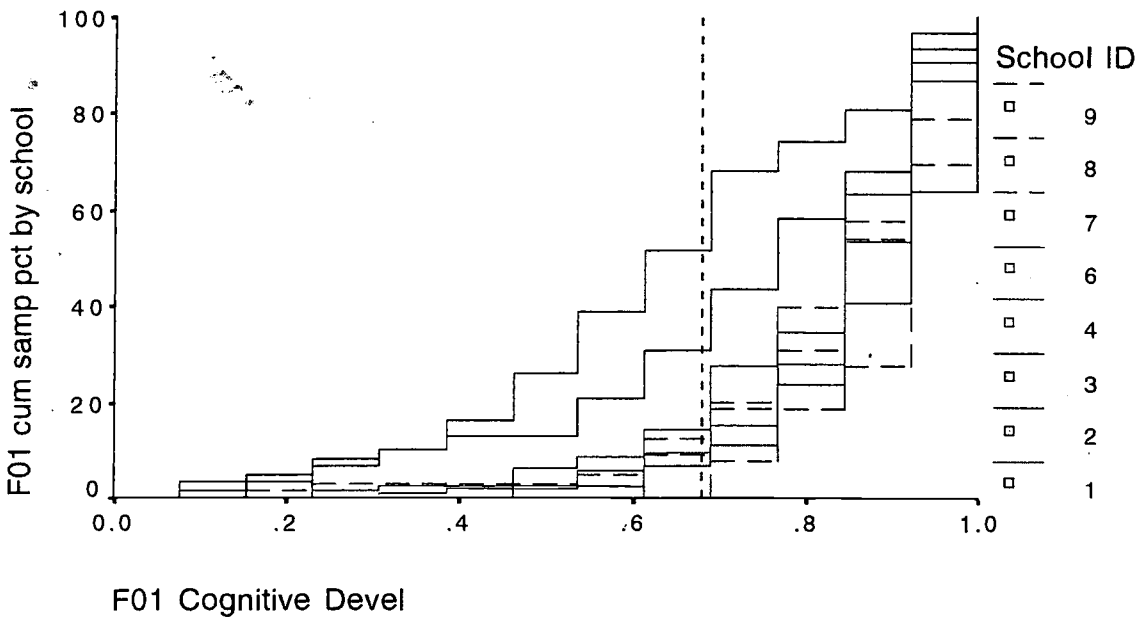
| % of Sample in Acceptable Range | % of Sample Below Acceptable Score | Acceptable Score | Distribution Issues |
|---|---|---|---|
| 83.5. | 16.5% * | .68 | The number of children within the normal range is approximately the same as the national norm. However, there is a long lower tail containing almost 20% of the sample. The system may not adequately identify or target support for all of this low group. |

* 83.1% of the children below the acceptable score did not received Early Intervention Services.

Empirical Cumulative Distribution Function
Factor 1: Cognitive Development of Children In The Total Sample
Figure 3



Empirical Cumulative Distribution Function
Factor 1: Cognitive Development of Children By School
Figure 4




Factor 2a
Child Physical Well-Being
The data captures two aspects of children's physical development: physical well-being and motor development. They will be reported as 2a and 2b.

Most children in the County are reported to enjoy good health and are in a tight cluster around the acceptable level. This suggests that most health needs are being met. However, some families lack access to five basic health services which may impact this factor. They are: vision care, dental care, drug and alcohol, general mental health, and help with violence.

The factor percentages and comments about distribution issues are in table 4. The graphic display of the ECDF is in figure 5.

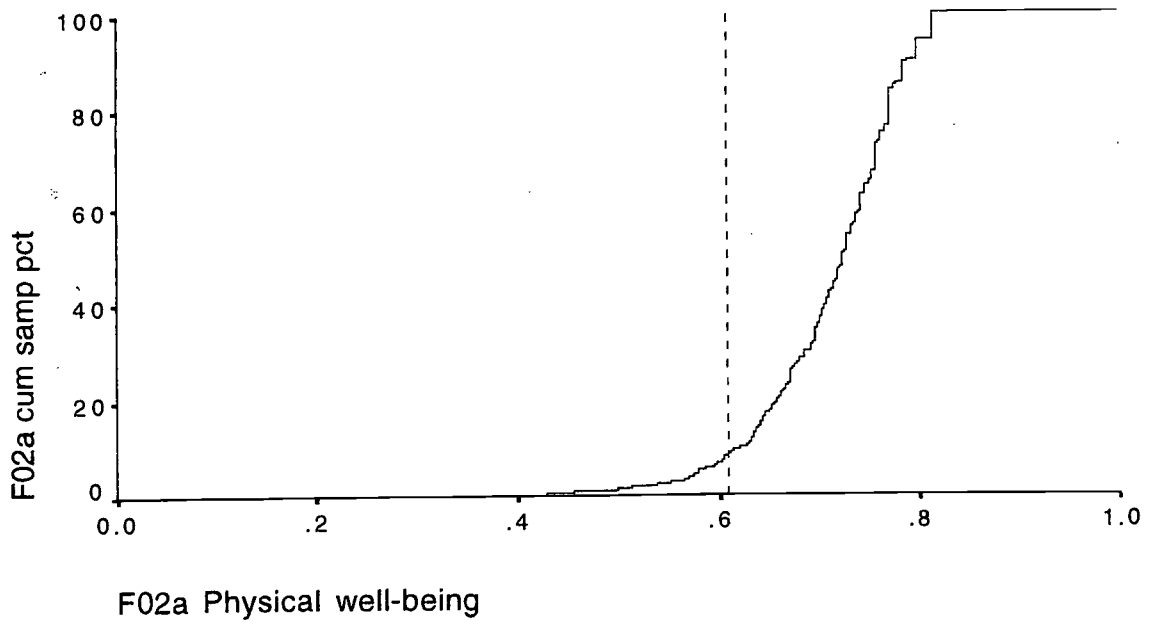
*Policy Implications For Factor 2a: Child Physical Well-Being*
There are no key systems issues at this time. However, work on Factor 5 (see pages 24-27) may increase the attained percentage of this factor.

Factor 2a: Child Physical Well-Being In The Total Sample
Table 4

| % of Sample in Acceptable Range | % of Sample Below Acceptable Score | Acceptable Score | Distribution Issues |
|---|---|---|---|
| 91.7%. | 8.3% * | .61 | There is a tight cluster around the acceptable level suggesting most health needs are being met. |

* 64.7% of the children below the acceptable score did not received Early Intervention Services.

Empirical Cumulative Distribution Function
Factor 2a: Child Physical Well-Being In The Total Sample
Figure 5



Factor 2b
Child Motor Development
Children in the County follow a typical national pattern for motor development and are within the norm. However, there is a strong lower tail containing almost 25% of the sample. The system may not adequately identify or target support for this lower group. Private school children do slightly better than public school children.

The factor percentages and comments about distribution issues are in table 5. The graphic display of the ECDF for the total sample is in figure 6 and is presented by school in figure 7.

*Policy Implications For Factor 2b: Child Motor Development*
Some children with special needs are hard to identify prior to school. So, both improved Child Find and improved early childhood special support in grades K-1 are likely to reduce the number in the low end and/or nurture them toward their optimal development before and shortly after school entry.

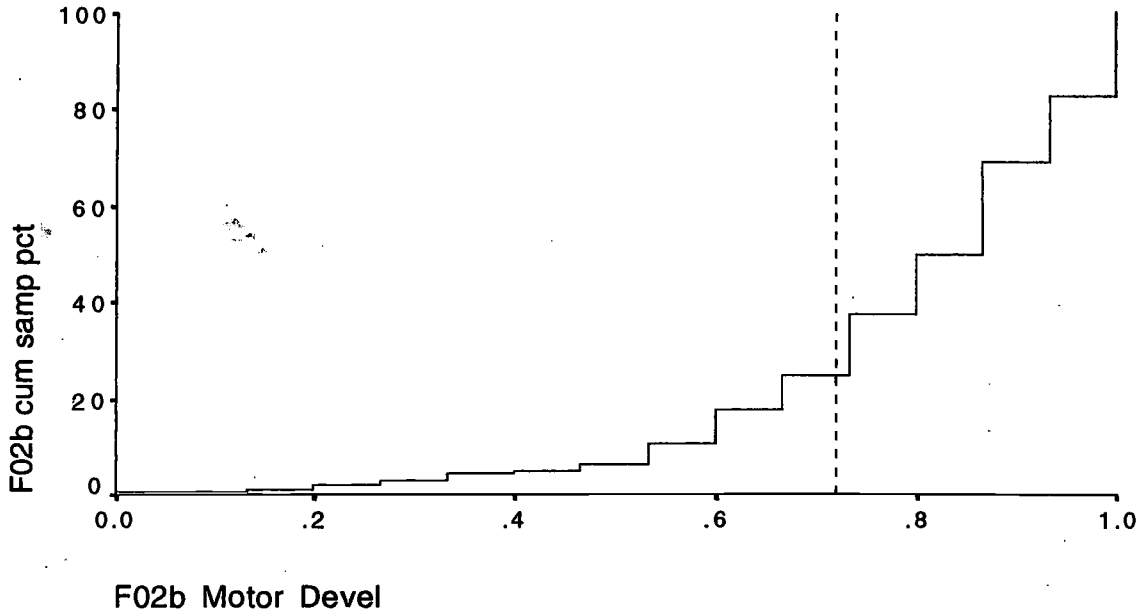
Shortly after data collection, one participating school informally reported that since they noticed slightly depressed motor scores for their children, they have included a segment of focused outdoor time each day. Efforts like this one should be commended and encouraged.

Factor 2b: Child Motor Development In The Total Sample
Table 5

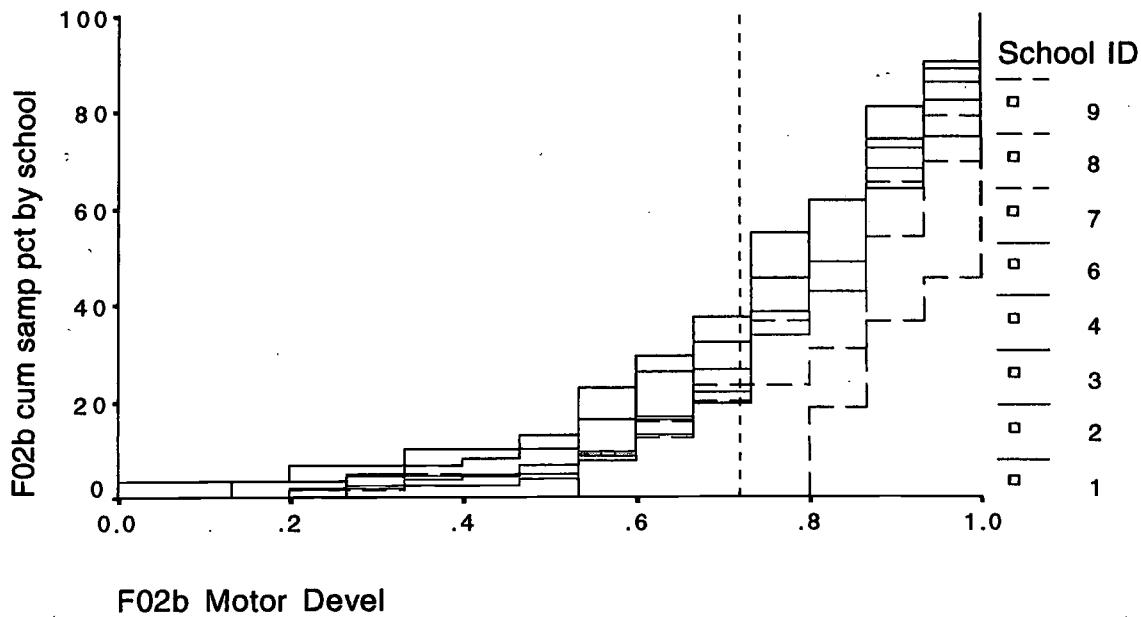
| % of Sample in Acceptable Range | % of Sample Below Acceptable Score | Acceptable Score | Distribution Issues |
|---|---|---|---|
| 75.4% | 24.6% * | .72 | The number of children within the normal range is about the same as the national norm on this measure. However, there is a long lower tail containing almost 25% of the sample. The system may not adequately identify or target support for all of this low group. |

* 82.8% of the children below the acceptable score did not received Early Intervention Services.

Empirical Cumulative Distribution Function
Factor 2b: Child Motor Development In The Total Sample
Figure 6




Empirical Cumulative Distribution Function
Factor 2b: Child Motor Development By School
Figure 7



Factor 3
Emerging Literacy Development
Approximately half of the children in the sample (48.9%) are below what the national literature suggests for an acceptable score on emerging literacy. The sample is also below the numbers from the Oregon Benchmark Study on the same instrument. When a proportion this large is below the acceptable score, the entire system needs attention. A simple fix is not likely to work: programs only targeted to subpopulations (e.g., low income children), are not likely to result in the wide spead improvements needed. And, the ECDF curve suggests the underlying causes are system-wide. An attained percentage of at least 68% with a tighter range of scores would indicate a well functioning system.

A second level of analysis was done by examining how school scores and emerging literacy interfaced with characteristics that are likely to be linked such as TV viewing, family reading habits, home language of the child, and type of child care placement. Children who scored above the acceptable level tended to do one or more of the following:

- watched less than 1 hour of television a day;
- went to the same high quality preschool and kindergarten; and,
- spoke English at home.

Even with these caveats, the sample indicates that children in all parts of the system are scoring lower than expected on this factor with no easy answer or remedy. This means it is likely to be caused by common elements underlying the entire sample.

The factor percentages and comments about distribution issues are in table 6. The graphic display of the ECDF for the total sample is in figure 8, and the ECDFs for Factor 3 by school, TV viewing, and home language are in figures 9, 10, and 11.

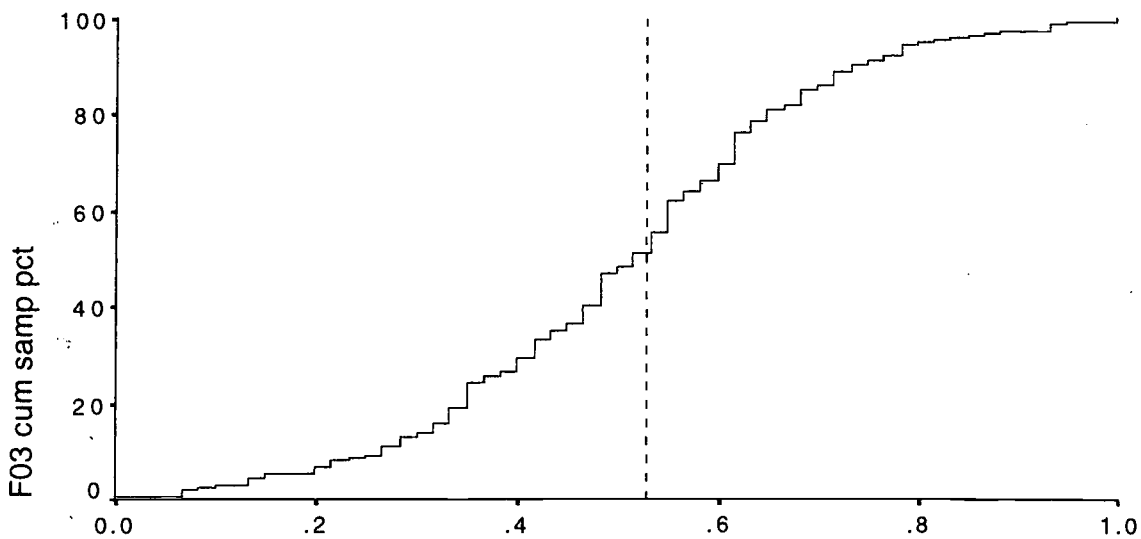
*Policy Implications For Factor 3: Emerging Child Literacy Development*
The results suggest the best-guess underlying causes of low scores in so many children are that they are not being read to and/or exposed to books enough to support normal early literacy development throughout the system. Perhaps television and video tapes are being used as a lap reading substitute. Additionally, there may not be an adequate supply of Spanish children's books available. More reading, less television and video tapes, more parental and child care education on how to read to young children are a beginning. More community conversation about innovative promotion of age-appropriate literacy development needs to take place. Also see the discussion under factor 6a and b (pages 27-31).

Factor 3: Child Emerging Literacy Development In The Total Sample
Table 6

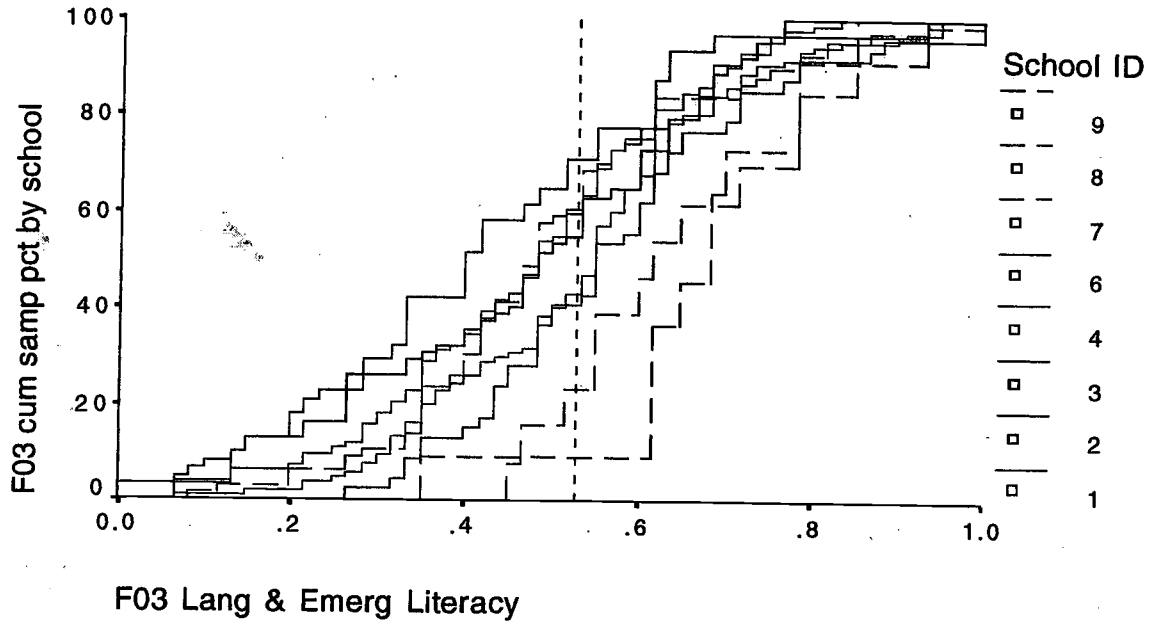
| % of Sample in Acceptable Range | % of Sample Below Acceptable Score | Acceptable Score | Distribution Issues |
|---|---|---|---|
| 49.9% | 51.1% * | .53 | The number at the acceptable level is below the national norm. The system in place does not adequately support normal development. An achieved score of at least 68% with a smaller range of scores would indicate a better functioning system. |

* 91.2% of the children below the acceptable score received did not receive Early Intervention Services.

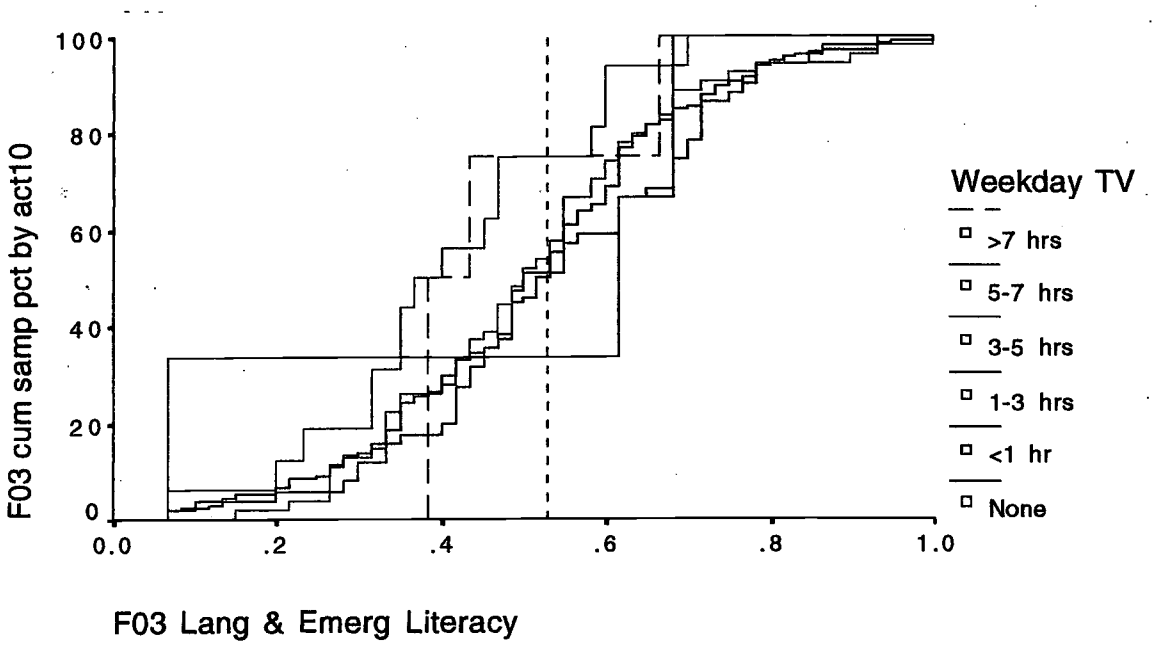
Empirical Cumulative Distribution Function
Factor 3: Child Emerging Literacy Development In The Total Sample
Figure 8



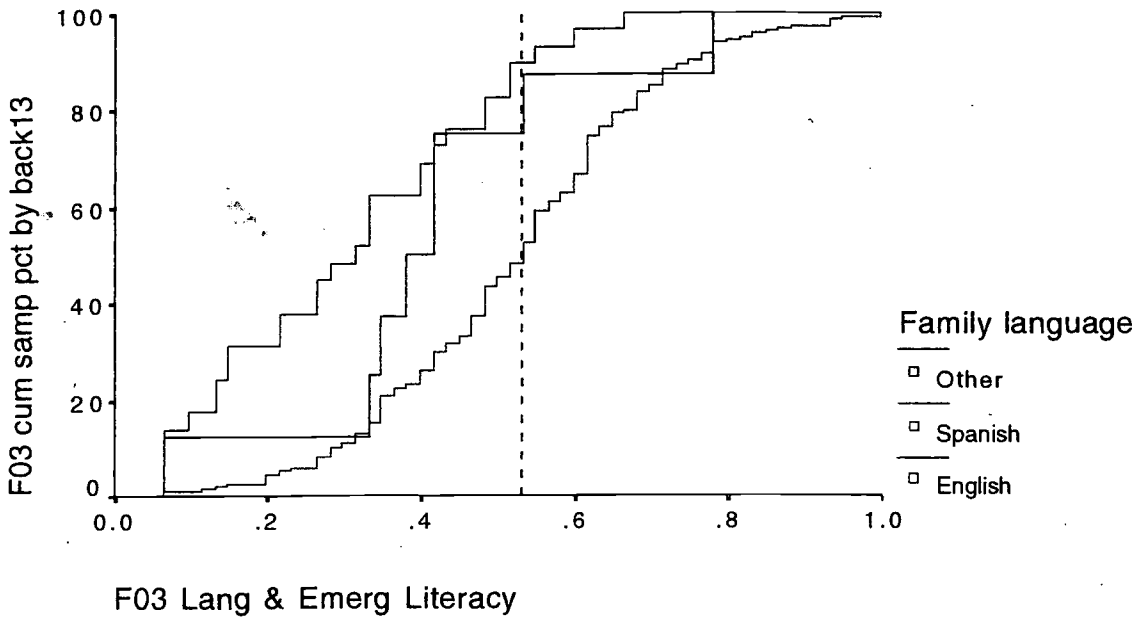
Empirical Cumulative Distribution Function
Factor 3: Child Emerging Literacy Development By School
Figure 9




Empirical Cumulative Distribution Function
Factor 3: Child Emerging Literacy Development By TV Viewing
Figure 10



Empirical Cumulative Distribution Function
Factor 3: Child Emerging Literacy Development By Home Language
Figure 11




Factor 4
Child Social Development

A little over two-thirds of the children are in the acceptable range of social behaviors. The bulk of the sample is tightly clustered above the acceptable score. The one-third below the acceptable score is cause for concern since strong social skills are documented to be one of the best predictors of school success. In fact, social skills are a better predictor of school success than academic knowledge (Pelliegrini and Glickman, 1990). No unique distributions are present by school, income, or family background, meaning that the low scores are not in any one subpopulation.

The factor percentages and comments about distribution issues are in table 7. The graphic display of the ECDF is in figure 12.

*Policy Implications For Factor 4: Child Social Development*

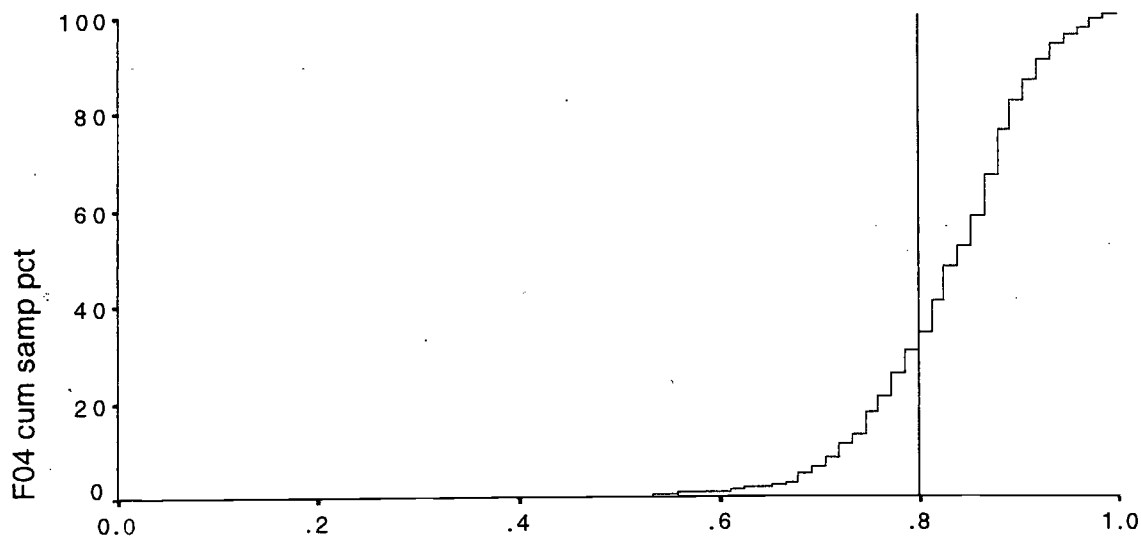
Parent education, child care provider, and teacher training across the County is likely to be the best way to increase this benchmark. Also, support for work on social skills in schools is important. Acknowledgment by state and local school policy makers (e.g., school boards, legislators, central administrators, site councils) of social development's important role in academic success may make it easier for teachers to balance their daily program to promote social skills in the context of daily classroom routines.

Factor 4: Child Social Development In The Total Sample
Table 7

| % of Sample in Acceptable Range | % of Sample Below Acceptable Score | Acceptable Score | Distribution Issues |
|---|---|---|---|
| 68.9% | 31.1% * | .80 | There is a small range of scores clustered above the acceptable score with one-third below the acceptable score. This is cause for concern since children with low social skills are documented to have trouble with school and life skills. |

* 89.9% of the children below the acceptable score did not receive Early Intervention Services.

Empirical Cumulative Distribution Function
Factor 4: Child Social Development In The Total Sample
Figure 12



Factor 5
Family Access to Basic Resources
This benchmark shows approximately two thirds of the families have their basic needs met. Conversely 32.2% of families do not usually have access to services to meet all of their basic needs. The nature of basic needs is that all families need to usually have these services - they are basic. The lower tail is short, meaning the sample who are not being served have only some of their needs unmet. A second level of analysis was done to pinpoint areas of concern.

Families report unmet basic needs falling into three clusters: Mental Health related help around violence, general mental health, and substance abuse; Health related help with vision and dental care; and, Parenting Education. These needs are unmet in families across most schools and in a higher percent (up to 48%) in some school neighborhoods.

A school level analysis shows the four lowest income schools have the highest percentage of need, but there is a great deal of variation between and within schools. Details of these unmet needs by school are in Table 9. Although the table displays a clear pattern related to income with the lowest income schools needing the most additional support, one unmet need follows a different pattern. All schools but one have some families reporting an unmet need for help with violence directed at them or their children that is not as directly correlated to income or as evenly spread out as the other resource needs. To illustrate how strong of a need this is, families in one school (school 3) report that 48% of them need some help with violence in their lives at least some of the time.

The factor percentages and comments about distribution issues for the total sample are in table 8. The graphic display of the ECDF for the total sample and at the school level are in figures 13 and 14.

*Policy Implications For Factor 5; Family Access to Basic Resources*
The three clusters have some overlap especially in the mental health and parent education clusters. Possible policy targets for the Mental Health cluster are to encourage continued training with school staff and with child care providers about signs of distress, substance abuse and community or domestic violence needs in families along with ways to build the trust necessary to effectively report and/or refer families to community resources. All professionals are required by law to report suspected child abuse, but what if you don't know to suspect it? And, the impact of witnessing violence (either domestic or community) can also impede children's development. Children do not need to personally be abused to be seriously affected. Mental health and violence issues overlap with the work of groups from health, schools, social services, and criminal justice and requires cooperation across jurisdictions.

Parenting Education is a cluster with threads throughout the findings in this study. Additional longer-term parent education classes/support in the community across all demographic profiles is likely to improve several factors, not just this one. Course work may not be the only way to accomplish this support, but "community grandparent" systems or programs like Even Start or Healthy Start may target those most in need more effectively.

Although the health cluster may be conceptually linked to the mental health and parenting, vision and dental care by themselves may be less overwhelming targets than violence and mental health needs. Improvement on the unmet physical health needs is possible if local hospitals, health related training institutes like Pacific University and the University of Oregon Health Sciences Center link with health maintenance organizations and service clubs to conduct vision and dental screenings and make treatment follow up efforts as a way to increase healthier communities.

With the exception of help with violence which is wide spread, the first target should generally be lower income schools. Table 9 can help target community work.

Finally, encouraging business to offer all three of these clusters as part of their employee benefit packages can encourage family-friendly policies. This work could take many shapes from recognizing business who already offer the benefits to working at a legislative level to entice more to do so.

Factor 5: Family Access to Basic Resources In The Total Sample
Table 8

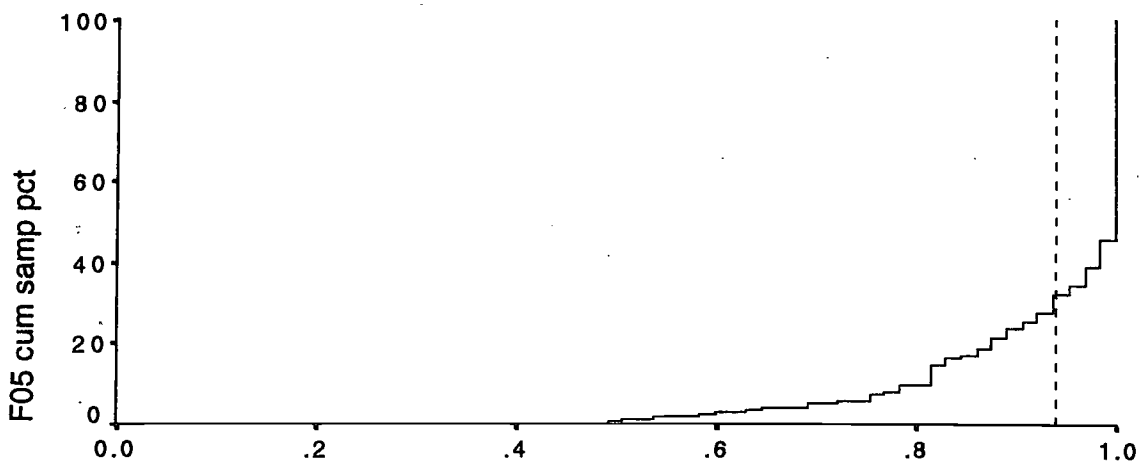
| % of Sample in Acceptable Range | % of Sample Below Acceptable Score | Acceptable Score | Distribution Issues |
|---|---|---|---|
| 67.8% | 32.2% | .94 | The acceptable score for this factor is high because of the nature of basic needs - they are basic. The lower tail is short, suggesting only some families have a few unmet needs. The data for unmet need by school shows variation on six unmet needs. It tends to break down along income lines. |

Percentage of Families With Unmet Needs By School
Table 9

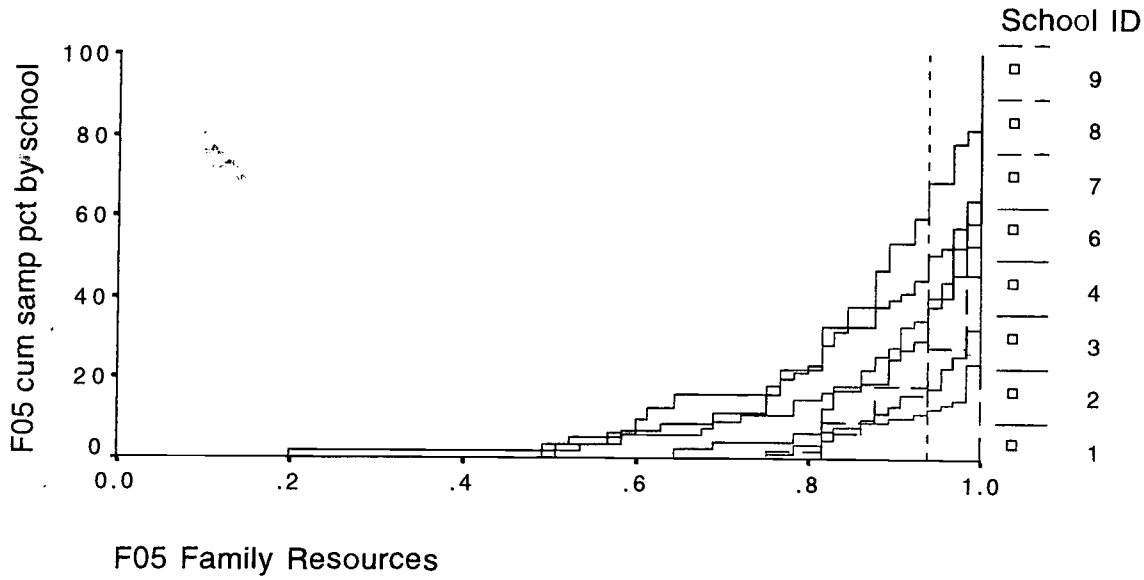
| *School* | Vision Care | Dental Care | Parent Education | Mental Health | Drug and Alcohol | Domestic Violence |
|---|---|---|---|---|---|---|
| 1 | 12.5% | 22.2% | 12.8% | 17.6% | 24.0% | 33.3% |
| 2 | 36.7% | 34.5% | 34.4% | 27.3% | 41.6% | 33.3% |
| 3 | 19.7% | 25.0% | 27.2% | 41.5% | 53.3% | 48.6% |
| 4 | 20.8% | 18.0% | 16.4% | 20.9% | 30.0% | 40.0% |
| 6 * | 7.9% | 11.9% | 3.4% | 13.5% | 17.4% | 20.8% |
| 7 | 11.3% | 10.9% | 4.8% | 9.1% | 18.1% | 20.0% |
| 8 | 0% | 0% | 0% | 0% | 0% | 0% |
| 9 | 9.1% | 18.2% | 9.1% | 10.0% | 10.0% | 10.0% |
| Overall | 15.8% | 18.6% | 13.5% | 20.2% | 30.2% | 31.9% |

There is no school number 5.

Empirical Cumulative Distribution Function
Factor 5: Family Access to Basic Resources In The Total Sample
Figure 13



Empirical Cumulative Distribution Function
Factor 5: Family Access to Basic Resources By School
Figure 14




Factor 6a Children's TV Viewing Habits at Home
Originally, this factor was entitled "child centered activities", but the data has two clear components: TV viewing habits of children at home and Family Reading Habits with Children. They are reported here as 6a and 6b respectively.

The ECDF for Factor 6a shows a great deal of variation in TV viewing habits of children. The acceptable level recognizes that some TV will be watched, but that it should be limited to 1-3 hours a day. This describes 78.3% of the children, but some children watch more than 5 hours a day.

In order to describe the range of how much TV is watched by children, a breakdown of viewing habits was done by school. Children in the higher income schools tend to watch more TV than those in lower income schools and those that speak Spanish as their home language watch the least. A display of the children's daily viewing habits is in Table 11.

The factor percentages and comments about distribution issues are in table 10. The graphic display of the ECDF is in figure 15 and a graphic display of TV watching ECDF by school is in figure 16.

*Policy Implications For Factor 6a: Children's TV Viewing Habits at Home*
Large amounts of television viewing can impede early brain development and takes time from more productive activities like cooking together, family conversations, games, and lap reading. Professionals in health care, child care, schools, parent education, libraries, and media all can positively impact this factor if their energy is harnessed. Asking that alternatives to TV viewing be included in parent information in County institutions is one step. Support for media literacy is another. There is a growing concern among many fields that children's TV viewing needs monitoring. This is voiced eloquently by Diane Levin (1998) in her book, Remote Control Childhood? Combating the Hazards of Media Culture.

There are currently limited Spanish language TV and video outlets. As Spanish media broadcasts and outlets are increased, information for Spanish-speaking families to use them wisely should also be increased.

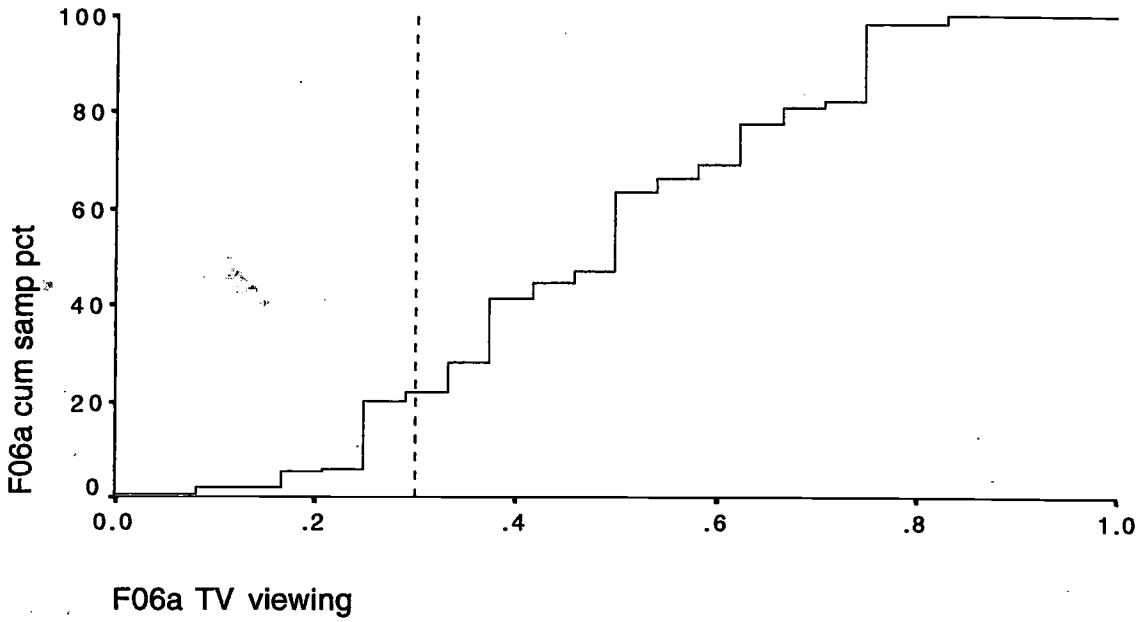
Factor 6a: TV Viewing In The Total Sample
Table 10

| % of Sample in Acceptable Range | % of Sample Below Acceptable Score | Acceptable Score | Distribution Issues |
|---|---|---|---|
| 78.3% | 21.7% | .30 | The ECDF shows there is large range in TV viewing habits in children. Second level analysis shows that children in higher income schools watch the most TV and those that speak Spanish as their home language watch the least. |

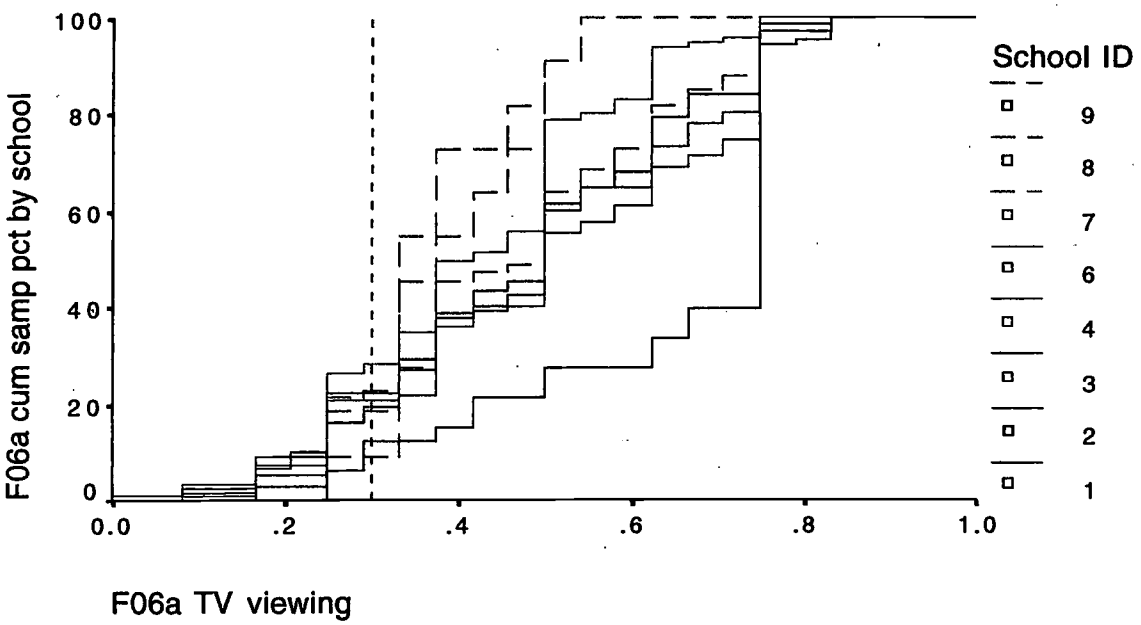
Children's TV Viewing Habits Per Day
Table 11

| Amount of TV Watched Per Day | % of Children |
|---|---|
| less than one hour/day | 18% |
| 1-3 hours/day | 60% |
| 3-5 hours/day | 10% |
| more than 5 hours/day | 12% |

Empirical Cumulative Distribution Function
Factor 6a: Children's TV Viewing Habits In The Total Sample
Figure 15




Empirical Cumulative Distribution Function
Factor 6a: Children's TV Viewing Habits By School
Figure 16



Factor 6b
Family Reading Habits With Children
Even though 64.2% of families report regular and long-term reading habits with their children prior to kindergarten, the curve shows a great deal of variation in the amount of reading they do. A second level analysis looked at a breakdown of the time families typically spend reading to young children. Of those not within the acceptable range, 30% read only 1-2 days per week with their children and 6% report no regular reading. Details of how families describe their regular reading habits are in table 14 (page 32). Although private school families report a higher rate of regular reading to children, there is a fairly big range of reading habits across all schools.

The factor percentages and comments about distribution issues are in table 12. The graphic displays of the ECDF in the total sample and by school are in figures 17 and 18.

*Policy Implications For Factor 6b: Family Reading Habits With Children :*
Reading to children on a regular basis is one of the best predictors of becoming a successful reader. Almost 36% of the children are not read to on a regular basis. Work in parent education, child care, libraries, family-friendly corporate policies, public awareness efforts, and more Spanish books in the community all need to occur to impact this factor.

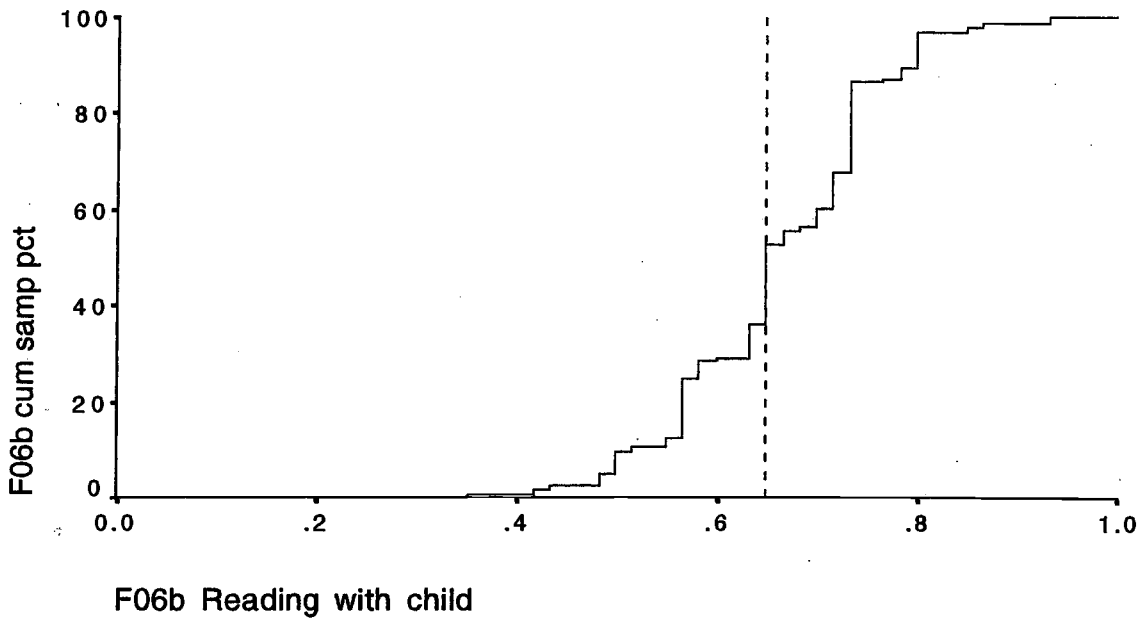
Factor 6b: Family Reading Habits With Children In The Total Sample
Table 12

| % of Sample in Acceptable Range | % of Sample Below Acceptable Score | Acceptable Score | Distribution Issues |
|---|---|---|---|
| 64.2% | 35.8% | .65 | The ECDF shows there is a large range in family reading habits with children with 35.6% families reading 1-2 x a week or less. A second level analysis was done by school. Private school families report a higher rate of regular reading to children but there is still a wide range in all schools. |

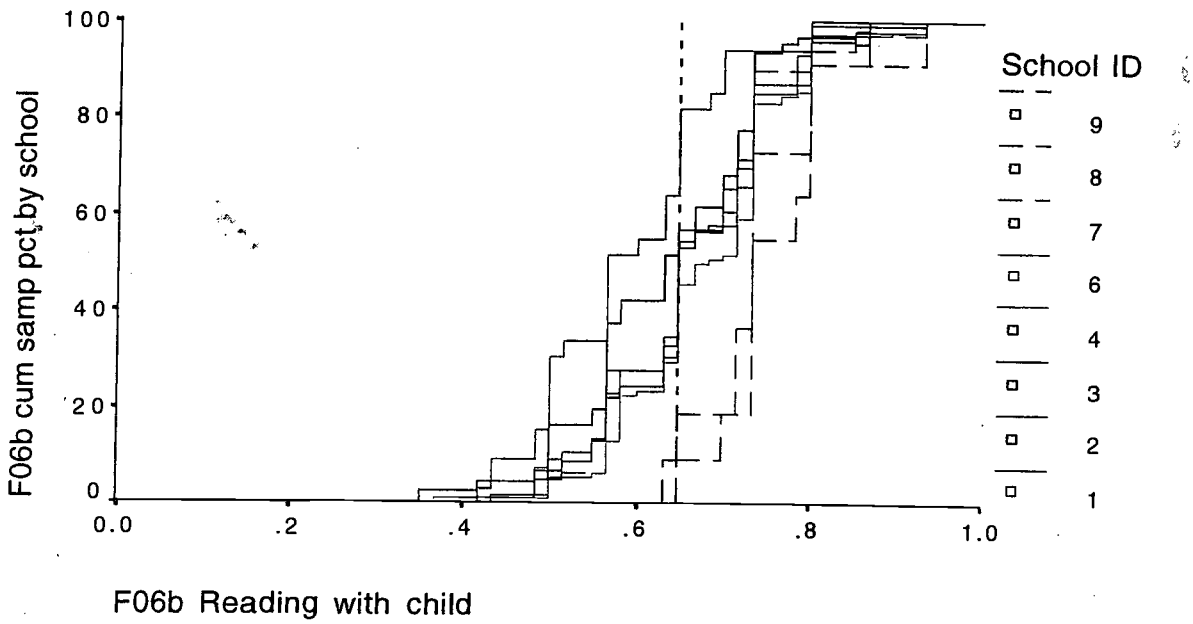
## Family Reading Habits With Preschool-age Children
Table 13

| Weekly Reading Habits | % of Families |
|---|---|
| Read to children daily | 30% |
| Read to children 3 x week | 34% |
| Read to children 1-2 x week | 30% |
| Do not read regularly | 6% |

## Empirical Cumulative Distribution Function
Factor 6b: Family Reading Habits With Children In The Total Sample
Figure 17



Empirical Cumulative Distribution Function
Factor 6b: Family Reading Habits With Children By School
Figure 18




Factor 7
Family Activities and Routines
Regular family activities and routines are important for children to develop a sense of security and boundary. Almost all of the families (95.1%) report they have regular family activities and predictable routines. The few families who are not at or above the acceptable level are outliers, falling far below the main body of the sample scores suggesting these few families have difficulty with routines in their households. There are no differences at the school level.

The factor percentages and comments about distribution issues are in table 14. The graphic display of the ECDF is in figure 19.

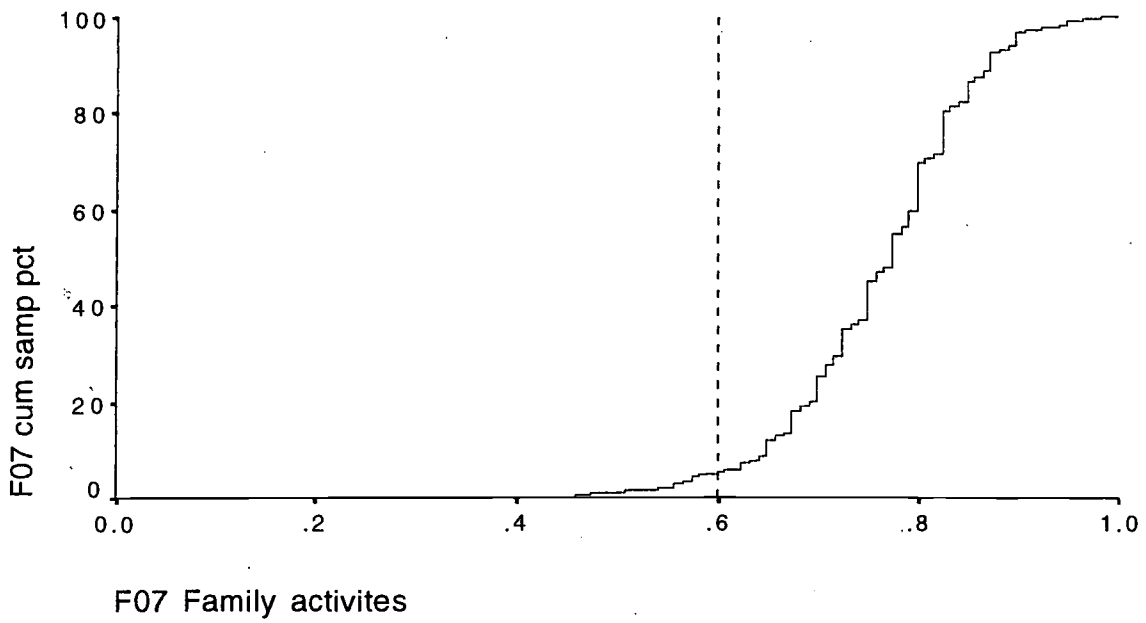
*Policy Implications For Factor 7: Family Activities and Routines*
Families report having many regular routines and activities centered around family life. This factor does not judge the quality of the time spent, but suggests families see themselves as spending a great deal of time together doing routine things. There are no policy implications at this time; however, the importance of regularity in children's development can be included in

parenting education. This is especially important for those few outlier families.

Factor 7: Family Activities and Routines In The Total Sample
Table 14

| % of Sample in Acceptable Range | % of Sample Below Acceptable Score | Acceptable Score | Distribution Issues |
|---|---|---|---|
| 95.1% | 4.9% | .60 | Almost all of the distribution is above the acceptable score. The few families below the typical scores do not maintain a regular schedule of routine events in their households. |

Empirical Cumulative Distribution Function
Factor 7: Family Activities and Routines In The Total Sample
Figure 19



Factor 8
Parental Involvement in Child's Education
Almost all of the distribution is above the acceptable score (94.6%). There is a very small lower tail containing only a few outliers. This means there are only a few families who view the topic in a dramatically different way than the bulk of the population. There are no notable differences at the school level.

The factor percentages and comments about distribution issues are in table 15. The graphic display of the ECDF is in figure 18.

*Policy Implications For Factor 8: Parental Involvement in Child's Education :* Families in general think that it is important to be involved with their child's education in much the same way that schools do. This measure only looks at how important this factor is to people, not what they really do. However, schools can capitalize on parental belief systems to increase family participation.

Factor 8: Parental Involvement in Child's Education In The Total Sample
Table 15

| % of Sample in Acceptable Range | % of Sample Below Acceptable Score | Acceptable Score | Distribution Issues |
|---|---|---|---|
| 94.6% | 5.4% | .85 | Almost all of the distribution is above the acceptable score. There is a very small lower tail, suggesting there are only a few families who view the topic in a dramatically different way than the bulk of the population. |

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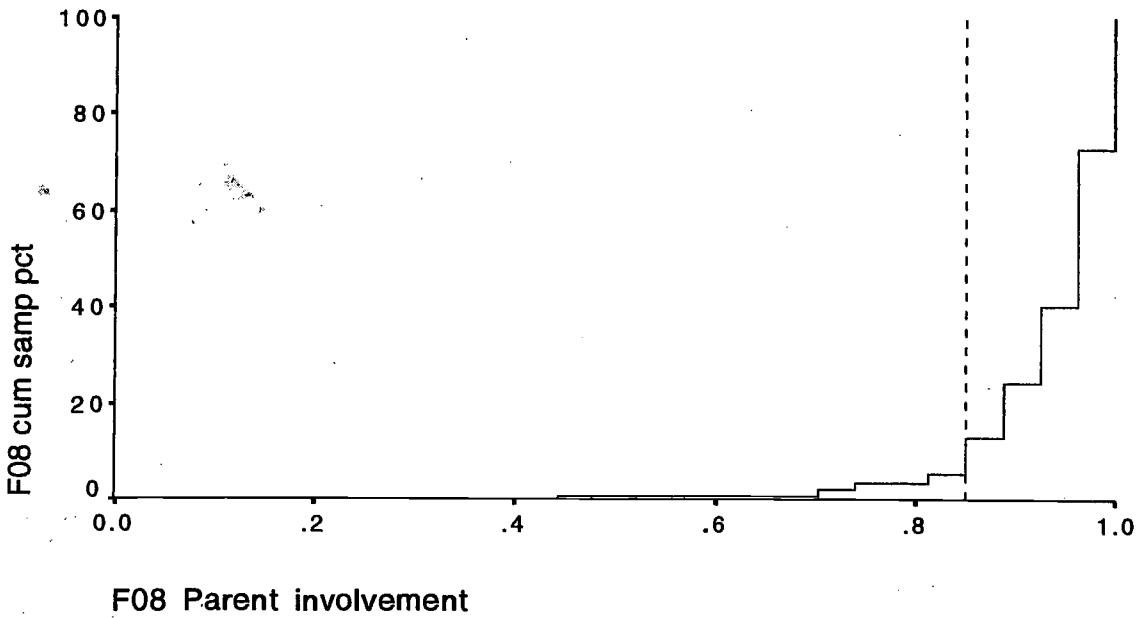
Empirical Cumulative Distribution Function
Factor 8: Parental Involvement in Child's Education In The Total Sample
Figure 20




Factor 9
Developmentally Appropriate School Curriculum, Assessment and Instruction

School level analysis shows only two schools (both of the private schools) exceeding the acceptable level with all of the public schools close to, but below the acceptable score. When the ECDF is examined, this factor presents an unusual pattern worthy of note: There is almost no variation in the scores.

This could result from a nonsystematic application of teaching principles. The raw data shows inconsistency within and between the teacher's raw scores. This is particularly true on items related to how best to deliver age-appropriate academics in kindergarten. For example, teachers typically report they incorporate play and choice time into their daily schedules as a way to teach skills but also use worksheets. These are conceptually inconsistent. Another inconsistency is that some teachers report believing children have individual patterns of development, but also expect to retain children if they are not ready for first grade.

When inconsistencies like these examples are present, it may be harder for schools, families, and community to agree on what being ready for kindergarten means. Teacher background data provides possible explanations for the some of the inconsistency: few teachers have formal early childhood training or specialty certifications. For example, 21.4% of the teachers have an ECE endorsement, 35.7% have any affiliation with ECE professional organizations, and 12.5% report having specialized, formal ECE degrees. Teachers lacking formal training and research background on what constitutes best kindergarten practice may have a harder time having this information at their fingertips, answering parental questions, or conveying consistent messages to families.

To the credit of teachers, 50% of them reported seeking outside ECE geared training in the past year. During project training and data collection, teachers from almost all schools sought out information about kindergarten programming. For example, teachers asked for information about daily schedules, room arrangement, use of ECE materials like blocks, as well as the meaning of low scores for specific children. A summary of teacher training is in table 17.

The factor percentages and comments about distribution issues are in table 16. The graphic display of the ECDF is in figure 21.

*Policy Implications For Factor 9: Developmentally Appropriate School Curriculum, Assessment and Instruction*

Based on the ECDF, raw data, teacher training information, and field notes, there does not appear to be a systematic definition of kindergarten in the County. The current school funding climate coupled with the push to teach to standards appear to make schools feel under siege. Teachers openly talk about feeling pressured to teach in ways that do not reflect what the research defines as best practice.

Two studies point to possible solutions. In a 1994 study in Washington DC, the impact of the type of program in preschool and kindergarten on fourth grade test scores found that the use of an approach using consistent child-centered and age-appropriate academics; play-oriented programming; and, flexible, but focused support for less well-developed children had the biggest positive impact on test scores of all program models (Marcon). In 1992, Elizabeth Graue found an inconsistent pattern in three schools in a small community in Colorado. She states, "Changes in the structure of kindergarten education are advocated to make schools ready for children rather than expecting children to be ready for schools" (p. 225).

The County schools may be ready for children, but appear to have inconsistent views about kindergartens and would benefit from increased discussion about best practice. Increased support to the schools for focused ECE training and links to professional organizations, more systematic discussion about the unique kindergarten contribution to achieving standards in later grades, and how to best deal with the developmental variation found in children as they enter school are all important to improving the attained percentage of this factor.

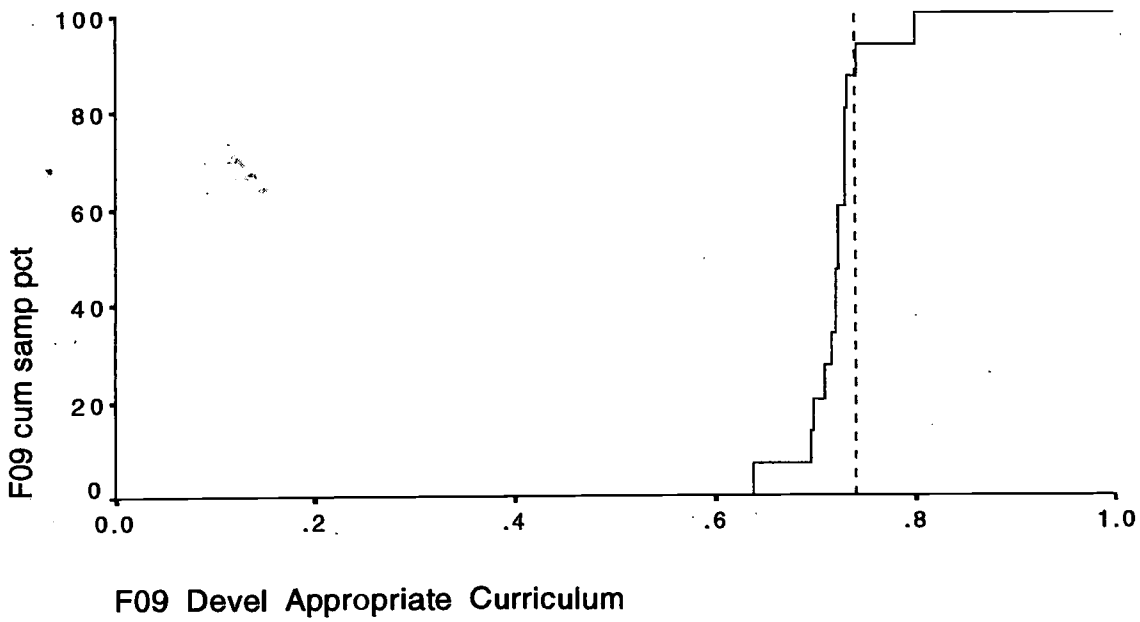
Factor 9: Developmentally Appropriate School Curriculum, Assessment and Instruction Across County Kindergartens
Table 16

| % of Sample in Acceptable Range | % of Sample Below Acceptable Score | Acceptable Score | Distribution Issues |
|---|---|---|---|
| 5.6% | 94.4% | .74 | There is almost no variation in the scores for this factor. The more telling data is the inconsistency within and between the teacher's raw scores. This is particularly true on items related to how best to deliver age-appropriate academics in kindergarten. When a pattern like this occurs, is it difficult to describe what being ready for kindergarten means from the school's perspective because there is no consistent answer. |

ECE Training Among Teachers
Table 17

| Type of Training or Support | Yes | No/Not Reported |
|---|---|---|
| ECE Endorsement | 21.4% | 78.6% |
| ECE Professional Affiliation | 35.7% | 64.3% |
| Degree with ECE Training | 12.5% | 87.8.% |
| *ECE Geared Inservice Training* | | |
| • District inservice | 6.3% | 93.8% |
| • Outside workshops | 50.0% | 50.0% |
| • Course work | 25.0% | 75.0% |

Empirical Cumulative Distribution Function
Factor 9: Developmentally Appropriate School Curriculum, Assessment and Instruction Across County Kindergartens
Figure 21




Factor 10
Culturally and Linguistically Appropriateness of Education
This factor looks at the match between parental and school values about language and social behaviors. The range of the degree of match is low to high. The shape of the curve for this factor suggests there may be multiple subpopulations warranting more analysis and making the benchmark more complex to interpret. Several second level analyses were done.

When the matches on each question between teachers and families are examined separately, the teachers view the school more critically than parents. Since teachers are closer to the system, they are more likely to sense minor problems that families will not see. This means the mismatch may be less pronounced in actual practice.

When the differences are examined at the school level, distinct patterns of individual school culture show. Five schools have a large mismatch between what parents and families think about the cultural climate of the school. Two

schools have a mix of agreement about the cultural climate. One school has a strong, positive agreement. This last school happens to be a low income and predominately Spanish-speaking school.

Teacher or Family views are neither right or wrong. But, when there are different points of view, the transition for children can be more difficult. The ECDF by school differences is displayed in figure 23.

The factor percentages and comments about distribution issues are in table 18. The graphic display of the ECDF for the total factor is in figure 22.

*Policy Implications For Factor 10: Culturally and Linguistically Appropriateness of Education*

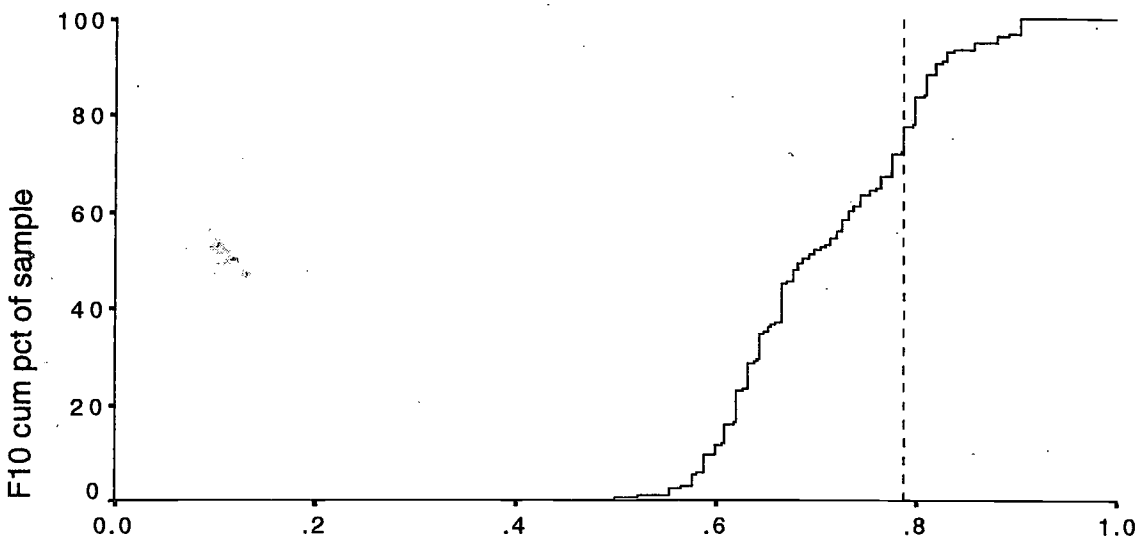
Schools would benefit from dialogue with families about social and cultural expectations. Parents and schools may not mutually recognize the differences in home and school orientation and need. This is especially true for first-time-to-school families who may not understand the need for group behaviors and safety rules in a school of 400 plus children that are likely to be different from those at home or in the informal atmosphere of small preschool centers. Parent education and/or parent involvement work, are possible avenues for sharing perspectives. Given the strength of factor 8 and factor 11 (the next one presented) the mismatch is not a large area of concern at this time.

Perhaps the most heartening finding in the data for this factor is that prior work on making schools comfortable for Spanish speaking families and children have paid off.

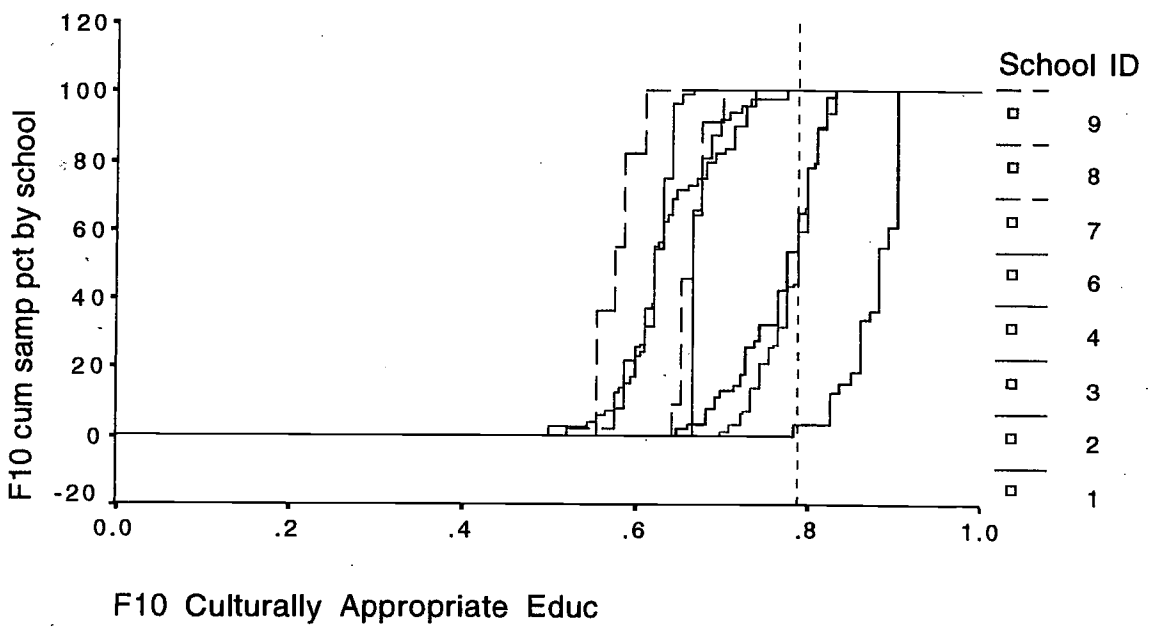
Factor 10: Culturally and Linguistically Appropriateness of Education Across County Kindergartens
Table 19

| % of Sample in Acceptable Range | % of Sample Below Acceptable Score | Acceptable Score | Distribution Issues |
|---|---|---|---|
| 22.6% | 77.4% | .79 | The shape of the ECDF suggests there may be multiple distributions warranting more analysis. Several second level analyses were done:<br>• Teachers were found to view the school more critically than the parents.<br>• Distinct patterns of school culture show some schools tend to be more closely aligned with parental expectations while other are not.<br>• Spanish speaking families find schools the most sensitive, English speaking moderately so, and other language groups the least. |

Empirical Cumulative Distribution Function
Factor 10: Culturally and Linguistically Appropriateness of Education Across County Kindergartens
Figure 22




Empirical Cumulative Distribution Function
Factor 10: Culturally and Linguistically Appropriateness of Kindergarten Education By School
Figure 23



Factor 11
Involvement and Empowerment of Families
Almost all of the schools are above the acceptable score for this factor (94.4%). There is a very small and long tail below the acceptable score. When this factor is examined at the school level, all but one school clumps closely together above the acceptable level. School 8 has a mix of opinions among their families about school governance. The school level ECDF is displayed in figure 25.

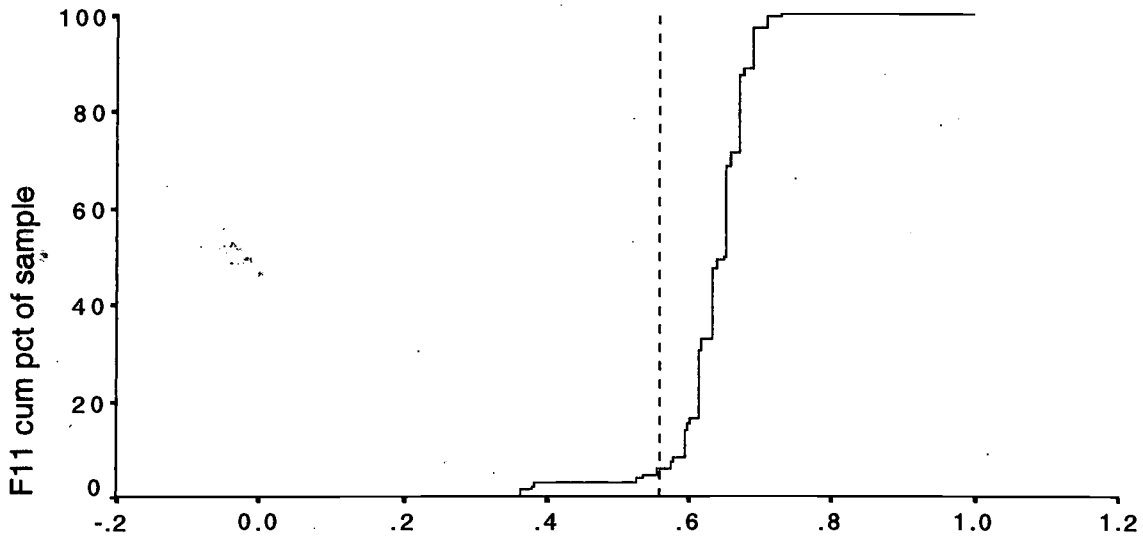
The factor percentages and comments about distribution issues are in table 19. The graphic display of the ECDF for the total factor is in figure 24.

*Policy Implications For Factor 11: Involvement and Empowerment of Families*
Families and schools typically agree on how schools should be run and what power families should have in the school. School communities are the best equipped to handle this type of disagreement.

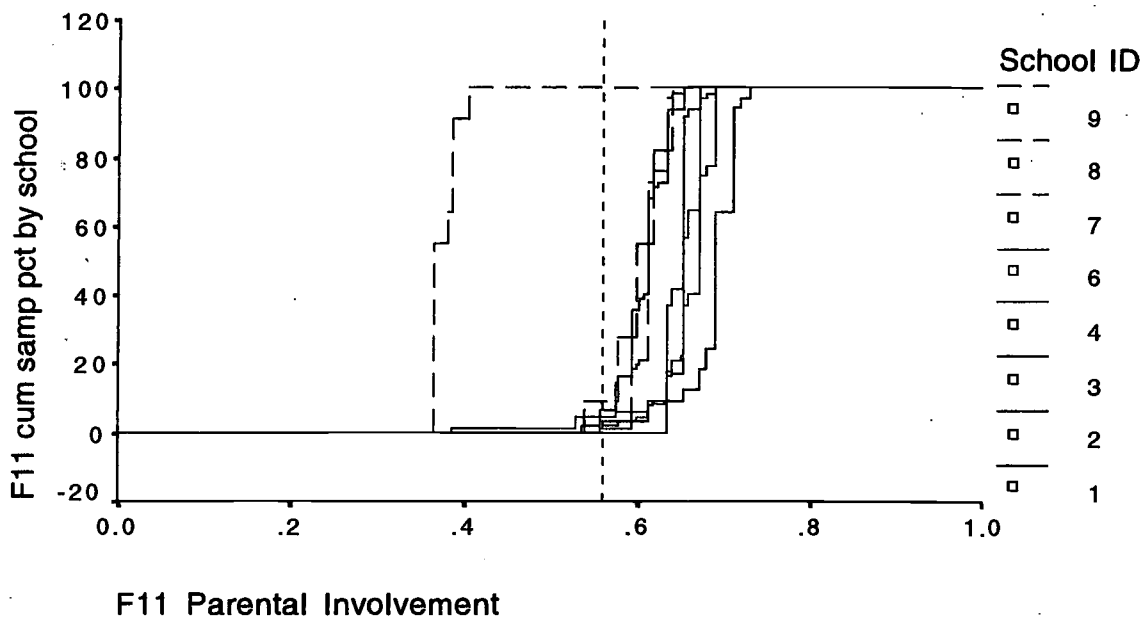
Factor 11: Involvement and Empowerment of Families
In The Total Sample
Table 19

| % of Sample in Acceptable Range | % of Sample Below Acceptable Score | Acceptable Score | Distribution Issues |
|---|---|---|---|
| 94.4% | 5.6% | .56 | There is very small and long tail below the acceptable score. A second level analysis shows the difference to be isolated to one school. |

Empirical Cumulative Distribution Function
Factor 11: Involvement and Empowerment of Families
Across County Kindergartens
Figure 24




Empirical Cumulative Distribution Function
Factor 11: Involvement and Empowerment of Families By School
Figure 25



Factor 12
Coordinated Transition to Kindergarten
Although 75.9% of the children are in school environments that are above the acceptable level, the shape of the ECDF suggests variation between and within schools. A second level of analysis shows that principals see more systematic transition activity than teachers. Five schools are completely above the acceptable score and have high agreement between principal and teachers. Three schools have mixed views of what constitutes coordinated transition. The school level display is in figure 27.

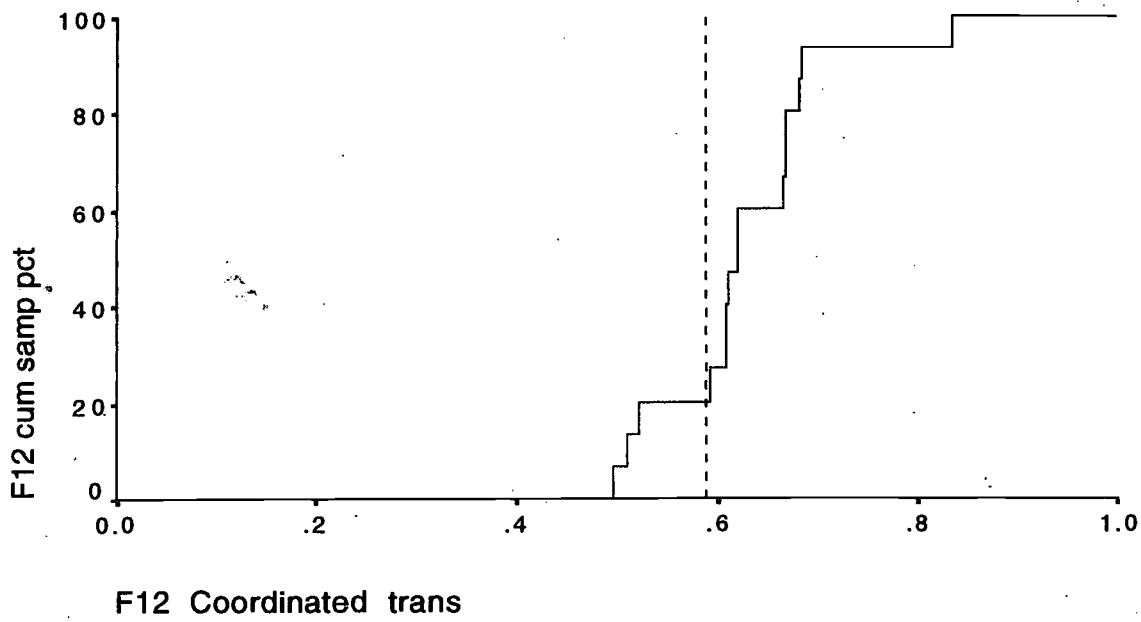
The factor percentages and comments about distribution issues are in table 20. The graphic display of the ECDF is in figure 26.

*Policy Implications For Factor 12: Coordinated Transition to Kindergarten*
The world of a teacher is often "ever so daily" while the world of principals is more oriented to the big picture. The way they define terms often reflects this split. More communication between staff about what transition consists of and how to promote it is likely to pay off with families.

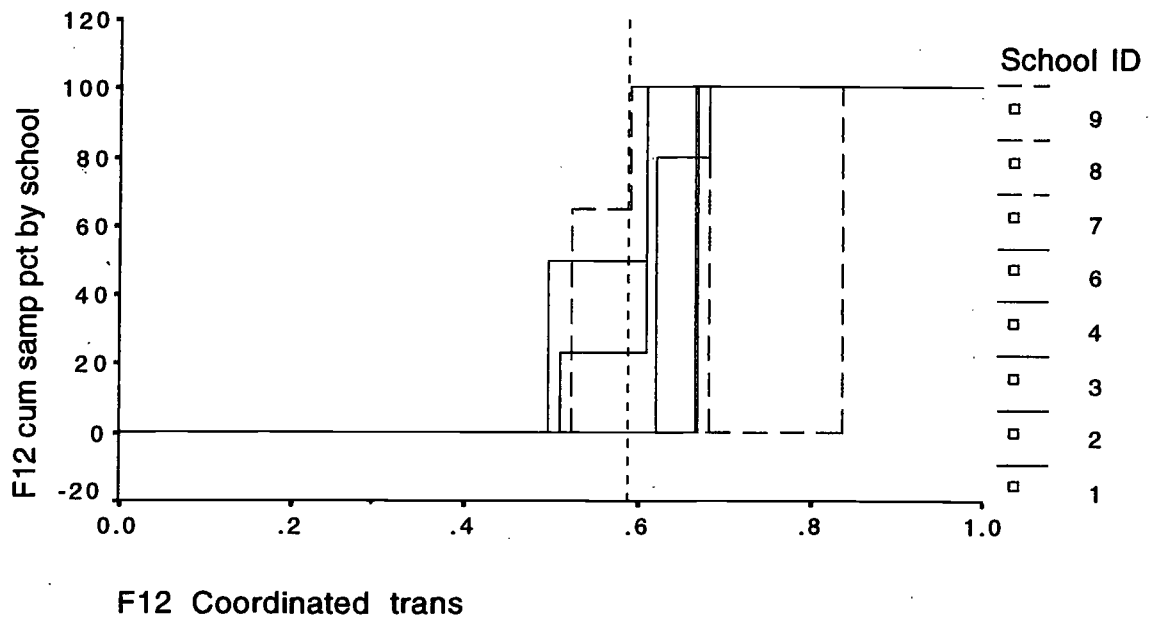
Factor 12: Coordinated Transition to Kindergarten Across Schools
Table 20

| % of Sample in Acceptable Range | % of Sample Below Acceptable Score | Acceptable Score | Distribution Issues |
|---|---|---|---|
| 76.4% | 23.6% | .59 | The shape of the ECDF suggests that there is some variation at the school level. A second level of analysis shows that principals see more systematic transition activity than teachers. |

Empirical Cumulative Distribution Function
Factor 12: Coordinated Transition to Kindergarten Across Schools
Figure 26




Empirical Cumulative Distribution Function
Factor 12: Coordinated Transition to Kindergarten By School
Figure 27



Factor 13
Access to High Quality Child Care
The County child care system offers 63.5% of the families access to high quality child care. Differences in the number of families who received care they rated highly were found in three school communities. Families in school 2, a predominately Spanish-speaking school, reported slightly less access than other school communities and families in schools 8 and 9, private schools with birth to age 7 care, the highest access. There were no differences in the other 5 schools.

A second level of analysis was done breaking down the number of child care providers a child needed to have by age. This is an important proxy for quality since stable relationships are one key to quality. When the number of transitions was examined, it ranges from 0-12 with a median of 3. This means that there is a long tail to the upper end of the distribution indicating families have a patchwork of care providers. Table 22 outlines the types of child care arrangements families rely upon by age of the child. The data also shows that the majority of families seek at least some type of child care for their children from someone besides parents at an early age. From birth to age two, 25% of families use more than one caregiver. During the preschool years, 50% rely on more than one caregiver.

The factor percentages and comments about distribution issues are in table 21. The graphic displays of the ECDF for the total sample is in figure 28.

*Policy Implications For Factor 13: Access to High Quality Child Care*
Not all families think they have access to high quality child care with a long-term, single provider for at least part of their before-kindergarten-years. Long- term relationships between providers, families, and children positively impact children's brain development, and social, cognitive, and language development. Having stable, long-term child care arrangements also makes training child care workers easier. Creating more consistent care, as well as family-friendly employment policies surrounding care are likely to show gains on thisfactor.

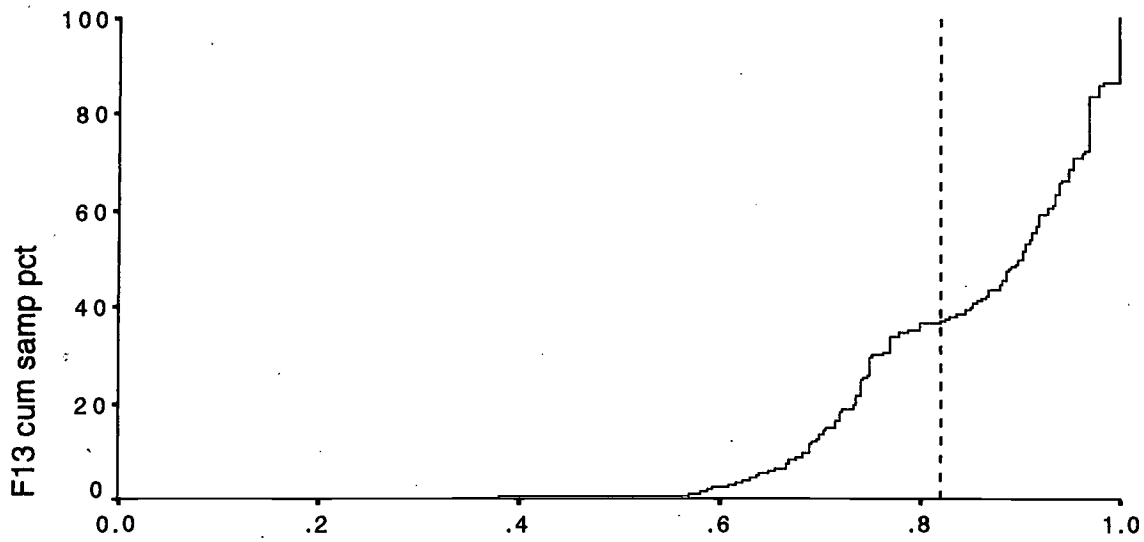
Factor 13: Access to High Quality Child Care In The Total Sample
Table 21

| % of Sample in Acceptable Range | % of Sample Below Acceptable Score | Acceptable Score | Distribution Issues |
|---|---|---|---|
| 63.5% | 36.5% | .82 | Minor differences were found by school communities. However, the number of child care transitions a child needs to make ranges from 0-12 with a median of 3. There is a long tail in the upper end of the distribution with most families having patchwork care for preschool. |

Number of Child Care Arrangements Used By Age of Child
In The Total Sample
Table 22

| Care Arrangement | Age 0-2 | Age 3-4 |
|---|---|---|
| With parent | 268 | 219 |
| At home with caregiver other than parent | 64 | 50 |
| Outside family child care | 133 | 128 |
| Head Start or Head Start-like program | 4 | 20 |
| Child care center | 45 | 203 |
| Extended day program | 2 | 6 |
| Overall number used at age | 516 | 626 |

Empirical Cumulative Distribution Function
Factor 13: Access to High Quality Child Care In The Total Sample
Figure 28



Factor 14
Collaborative and Integrated Services in Community Offered Through the School
Twenty-eight% of the children are in school environments which currently link families to the full array of collaborative and integrated services measured in this study. However, the distribution shows that the acceptable score for this factor is just above the median. Referrals are lacking for just three services: housing, adult basic education, and employment services. Table 24 displays the number of schools not linking families to these services .

The factor percentages and comments about distribution issues are in table 23. The graphic display of the ECDF is in figure 29.

*Policy Implications For Factor 14: Collaborative and Integrated Services in Community Offered Through the School*
When this factor is compared to factor 5, Access to Basic Resources, the data show that schools have referral sources for most of the services that families report lacking. Factor 5 data indicates very few families needing the services found in this factor. Dialogue between schools and community agencies can insure all services are available for families, if and when the need arises. The three services in question: housing, adult basic education, and employment supports are typical services in low income programs like Even Start and Head Start. Having collaborative agreements with "early-start-type" programs would be an easy way for schools to fill this small but critical gap for the few necessary families. This benchmark will be fairly easy and inexpensive to improve and can increase the reliability of the system in meeting family needs.

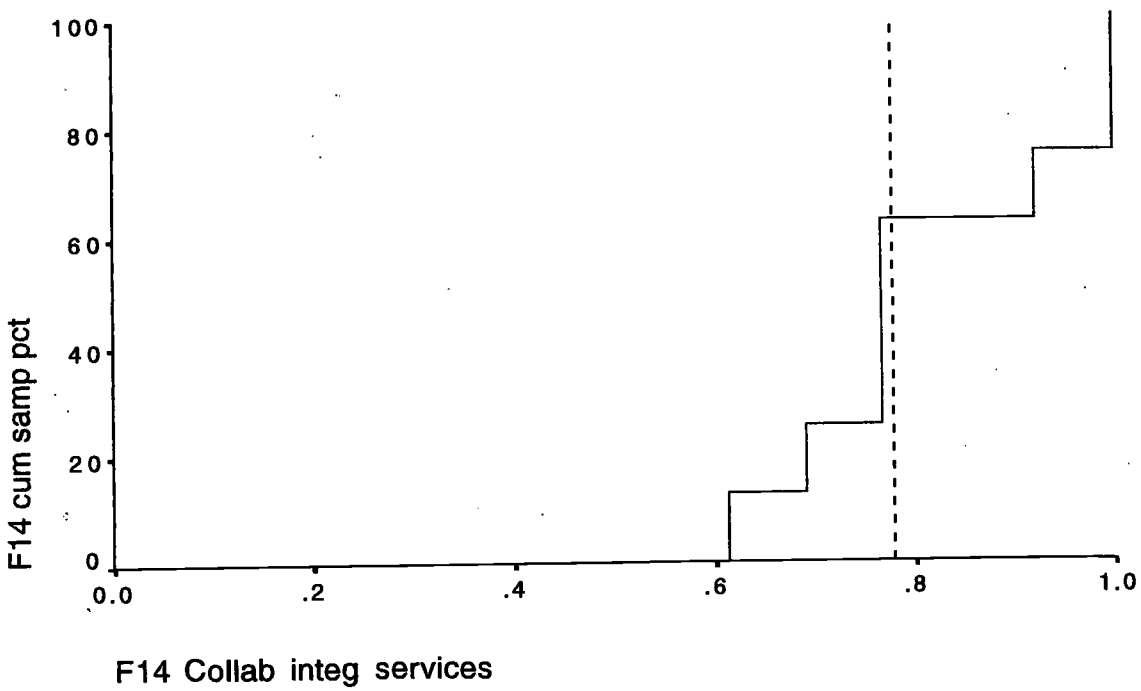
Factor 14: Collaborative and Integrated Services in Community Offered Through the School Across the County
Table 23

| % of Sample in Acceptable Range | % of Sample Below Acceptable Score | Acceptable Score | Distribution Issues |
|---|---|---|---|
| 28.5% | 71.5% | .78 | The distribution shows that the acceptable score for this factor is just above the median. Schools do not have referral listings for just a few of the services. Specifically, referrals are not in place for housing, adult basic education, and employment services. |

Number of Schools Not Linking Families to Integrated, Collaborative Services
Table 24

| Number of Schools Not Linking Families to Service | Services |
|---|---|
| 5 | housing |
| 3 | adult basic education |
| 6 | employment opportunities |

Empirical Cumulative Distribution Function
Factor 14: Collaborative and Integrated Services in Community Offered Through the School Across the County
Figure 29



Factor 15
Parenting Education Offered at or Through the School
One third of the schools offer all of the parent education services measured in this study. The raw data for this factor pinpoints the one parent education service not offered consistently: parent education classes. This means that with a small change, most schools would reach the acceptable score.

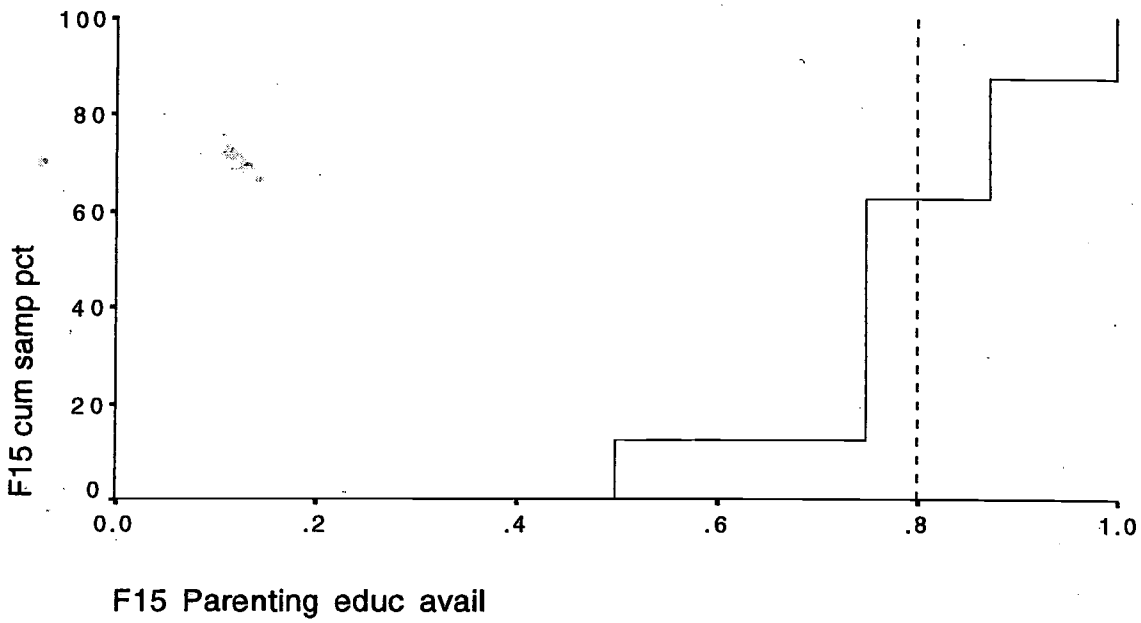
The factor percentages and comments about distribution issues are in table 25. The graphic display of the ECDF is in figure 30.

*Policy Implications For Factor 15: Parenting Education Offered at or Through the School*
Schools can be encouraged to host either community-based parent education or school-supported parent education. Given that social development scores are moderately low, TV viewing is high, literacy scores and reading habits are low, targeting this factor on these topics is likely to impact several factors. All Schools that are Title 1 Schools are required to spend a percentage of their funds on parent involvement work. This may be a good target for some of those funds.

Factor 15: Parenting Education Offered at or Through the School
Table 25

| % of Sample in Acceptable Range | % of Sample Below Acceptable Score | Acceptable Score | Distribution Issues |
|---|---|---|---|
| 31.2% | 68.8% | .80 | Schools consistently offer a large number of parent education services. However, the raw data for this factor shows that the one parent education service not offered consistently is parent education classes. This means that with a small change, most schools would be in the acceptable range. |

Empirical Cumulative Distribution Function
Factor 15: Parenting Education Offered at or Through the School
Figure 30



# Discussion

The ecological model designed for this study is a set of complex multidimensional independent factors comprising school readiness. A systems perspective has proved useful as a way to organize instruments, analyze data, and think about how to interpret the information to make sound policy recommendations. In the results section, a starting set of general questions were posed to assist readers' thinking as they reviewed the results. This section groups the questions into three big ideas:

- describing the overall performance of the system;
- looking at parts that hamper the success of the whole; and,
- finding lessons in the data for refining the system.

Links between these three big ideas form the backbone of the story in the data. They also frame the conclusions about and recommendations for improving school readiness benchmarks in Washington County.

## Describing the Overall System Supporting School Readiness

Based on the data from the sample, the five-year-old children entering kindergarten in Washington County live in a system that generally supports their development. Some parts of the system are stronger than others resulting in a mixed impact of readiness factors on children's development. When the independent readiness factors are grouped by their attained benchmark achievement, two achieve less than 25%, three fall between 26 and 50%, four fall between 51 and 75%, and eight exceed 75%. The readiness factor grouping is displayed in Table 26.

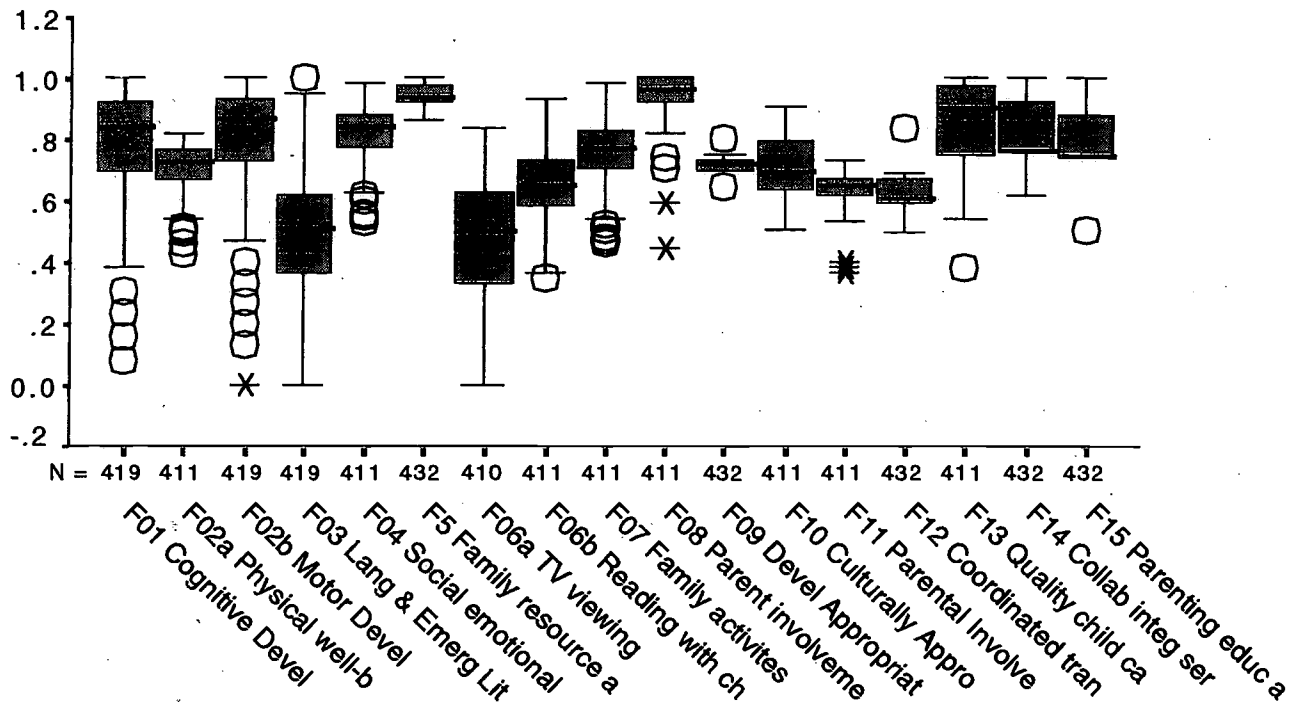
Groupings of Readiness Factors by Benchmark Score
Table 26

| Group 1 (0-25%) | Group 2 26-50% | Group 3 51-75% | Group 4 76-100% |
|---|---|---|---|
| 9 (school) | 3 (child) | 4 (child) | 1 (child) |
| 10 (school) | 14 (community) | 5 (family) | 2a (child) |
| | 15 (community) | 6b (family) | 2b (child) |
| | | 13 (community) | 6a (family) |
| | | | 7 (family) |
| | | | 8 (family) |
| | | | 11 (school) |
| | | | 12 (school) |
| Total: 2 | Total: 3 | Total: 4 | Total: 8 |

Another way to graphically describe the system at a glance is with box plots (figure 31). They display the data in a series of boxes with four main parts:

- the median, or half-way point, of the data which is marked by a line inside the box;
- a box with the lower end being the 25th percentile of the data and the top end being the 75th percentile;
- the lower and upper fences (the lines that come off the boxes) to show the lowest and highest that are not outliers; and,
- outlier markers (the circles and stars) representing individuals well outside the main body of the sample.

**Box Plots of All School Readiness Factors**
**Figure 31**



Coupling the box plot overview with information from Table 26 addresses the question: is the system developing school readiness well? The answer is complex, just like the reality of the system. The high and moderately achieving factors generally show the type of variation typical in any population of young children. The low individual scores within them can not be attributed to any underlying assignable cause at this time and are likely to continue in some random fashion. They appear to be truly individual developmental differences. However, the lower achieving benchmarks appear to have some common underlying sources.

The box plots of the County's readiness factor scores show that there are only a few outliers. In fact, there are only approximately 40 outliers in over 6000 pieces of data. Although each outlier has a human face behind it, designing first-line policy around them will only improve scores for small portions of the population. Looking toward the common underlying causes associated with the low benchmark scores can have a stronger impact on the system.

The usual quality control approach is first to insure the system works in stable and predictable ways (Grant and Leavenworth, 1980; Montgomery, 1985). Outlier analysis provides useful understanding of system irregularities. The stable system that results often provides a superior basis for improvement efforts. A predictable, stable system often responds more predictably to changes intended to improve it.

Nonetheless, resolution of assignable causes of outliers is usually only the starting point of a serious quality improvement effort. The biggest benefits are attained by addressing system features that improve the quality of all system products. To improve overall school readiness, looking for system fixes of underlying common problem causes has the biggest pay back because it improves the largest number of children's lives at lower cost and reduces the number of problems needing attention. Working on the system has a cumulative effect and creates a winning synergy. Working on the parts may assemble the ingredients, but it does not bake the bread.

It is a familiar story of prevention with a new twist. In the quality control literature, it is quite common for just a few issues to contribute to a majority of the concerns (Grant and Leavenworth, 1980; and Montgomery, 1985). Improvements to those parts of the system have broad ramifications. Attending to the readiness factors below 50 percent is a good place to begin. It is also important to work on readiness factors with higher levels of achievement, but that have important preventive value to the system as a whole.

Table 26 identifies five readiness factors with benchmark achievement below 50 percent. Two of them are school factors, two are community factors, and one is a child factor. There is also a sixth factor in the third group (factor 5) with a high number of families below acceptable levels on parts of the factor and appears to have social "added-value". The recommendation of this study is to work on these six factors because they appear to be hampering the system from supporting children's development.

Looking at Parts of the System That Hamper the Success of the Whole: Recommendations

These six readiness factors represent all four components of the ecological school readiness model. In a systems model, each readiness factor is synergistic with other readiness factors. All have potential for larger impact beyond themselves. As each recommendation for work on individual factors is presented, examples of possible impacts on the rest of the system are listed.

*Recommendations for Work on Child Factors*

We recommend that work is done on Factor 3, emerging literacy. It has a low achieved score of 48.9%. The data suggests children are not being read to and/or exposed to books enough to support typical early literacy development. There does not appear to be a simple cause for low scores. Television viewing and video tape use may be a lap reading substitute. Additionally, there may not be an adequate supply of Spanish children's books available. More reading, less television and video tapes, more parental and child care education on how to read to young children, and work with libraries to increase Spanish book availability and circulation are beginning stepss.

In addition to the above suggestions for focusing on early literacy development, more community conversation about innovative promotion of age-appropriate literacy development needs to take place. Stakeholders in the community are in a good position to flesh out the basic recommendations.

It is feasible that work on early literacy may impact five other factors:

- 6a reducing television watching;
- 6b increasing reading to children at home;
- 9 improving developmentally appropriate school practice;
- 13 improving the quality of child care; and,
- 15 being a concrete topic for parent education.

*Recommendations for Work on Family Factors*

We recommended work be on Factor 5, access to basic resources. Although the total achieved factor score is at 67.8 %, there are several individual resources that are unmet. As many as 40-50% of the families report unmet needs in some school neighborhoods. The unmet needs are in three clusters:

- mental health (drug and alcohol, mental health, violence prevention);
- health (vision care, dental care); and,
- parent education.

Although, not all school neighborhoods are this extreme, those that have this level of need are good examples of system difficulties. Unpredictable support makes it difficult to ensure that the young children in these neighborhoods can develop well.

The results section sketches several strategy ideas for this key factor. They all work to link schools, child care, community services and health institutions

with families in targeted neighborhoods and can be bolstered further if more business offers these services in employee benefit packages.

Possible illustrations of how bigger system improvements may result from an improvement focus on factor 5 are:

- 2 enhancing child physical well-being by reducing emergency and trauma;
- 4 increasing the number of children with stronger social skills which spins off into later increase academic performance and being more productive when they become adults;
- 6 a reducing television viewing of real or pretend violence;
- 7 improving the quality of time spent in family activity;
- 1 4 improving access to collaborative and integrated services; and,
- 1 5 increasing parent education options for families directed toward mentally healthy parenting, non violence, and media literacy.

*Recommendations for Work on School Factors*
We recommend work be done on two school factors. They are: Factor 9 (developmentally appropriate practices) and Factor 10 (culturally and linguistically appropriate education). Factor 9 has an attained score of 5.6% and factor 10 is at an attained score of 22.6%. These two factors are the lowest in the entire study. Without work on these two readiness factors the system will only see moderate improvements. Currently there does not appear to be common definition of what kindergarten is among teachers, districts, families, and communities.

Kindergarten has an unique position in most County schools: it is part of two educational systems: early childhood and elementary. Having two venues makes change more difficult, but not impossible. As policy makers in community and school jurisdictions think seriously about the data on these two key readiness factors, acknowledging the "push-me-pull-you" interaction of these two systems will be important. Keeping perspective can offer a balance as solutions are sought. For example, the current school funding climate and the push to teach to standards increases pressure on schools to teach in ways that do not reflect what research shows to be best kindergarten practice. Resolutions accommodating both the early childhood and elementary approaches may take time to find and implement. Thankfully, models for doing so are wide spread (Goffin and Steglin, 1992; Marcon, 1994; and Peck, McCaig, and Sapp, 1988).

Very recent changes in Oregon teacher licensing procedures have created an ECE certificate. This may help improve teacher training for young children in the long run. In the meantime, school administrative leadership can create opportunities for more systematic discussion on the unique kindergarten contribution to achieving standards in later grades. Part of the conversation should include how to best deal with the developmental variation found in children as they enter school and to support those that arrive at school less well developed. The teacher background data shows teachers have been

making efforts to gain more ECE information through inservice training. Their efforts are an example of how ready faculty are to define kindergarten. The bottom line is that if children are to entry school ready, the definition of kindergarten must be more consistent.

In conjunction with a focus on defining what kindergarten can be, schools would benefit from dialogue with families about social and cultural expectation. Specifics are discussed in the results section. Given that two other factors related to parental viewpoints about school are very strong, engaging families in conversations about what kindergarten can and should look like could be very positive. The data also shows this mutual understanding has happened in the Spanish speaking school community and can happen more broadly.

Since these two school factors have the lowest achieved benchmarks one reasonable approach to improvements is to use strengths from other parts of the system. Possible illustrations of other readiness factors that could be used to enhance these two school factors are:

- 1 building on the fairly strong cognitive development in children when designing curriculum;
- 2b including regular motor development and active learning part of every kindergarten;
- 4 using children with stronger social skills as models in the context of daily school routines;
- 12 taking opportunities to describe formal transition-to-school practices to more consistently define kindergarten; and,
- 13 linking to preschool and child care providers who have a vested interest in having a natural flow between the preschool and kindergarten as a way to more consistently define kindergarten.

*Recommendations for Work on Community Factors*
We recommend work be done on two community readiness factors. Collaborative and Integrated Services (Factor 14) has an achieved attainment of 28.5% and Parent Education (Factor 15) has an achieved attainment of 31.2%. Of all the six readiness factors recommended for work, these two are likely to be the easiest to improve. The data in Factor 5, Access to Basic Resources, suggests that very few families need the three services that are not readily available through school connections. The three services in question in Factor 14: housing, adult basic education, and employment supports are typical services in low income programs like Even Start and Head Start. Having collaborative agreements with "early-start-type" programs would be an easy way for schools to fill this small but critical referral. Connecting social service agencies to schools can ensure that all schools can refer families to all social service agencies. It would pay off with stronger community safety nets, if and when economic changes like plant closures or layoffs occur.

The data for Factor 15 shows the one parent education service most consistency lacking is parent education classes. Some schools do offer classes, but not all. Schools can also host community-based parent education. Although this factro

was measured at school sites, it is the responsiblity of the entire community, not just schools. As ideas for parenting education are generated throughout the community, looking beyond traditional topics are likely to be more successful for improving this readiness factor. For example, packaging and marketing parent education topics in social development, using TV viewing wisely, and reading to children are likely to productive ways to address factor 15 as well as other parts of the system.

If strategies like this are followed, impacts like the following are conceivable:

- 4 increasing the number of children with stronger social skills which spins off into later increases in academic performance and being more productive when they become adults;
- 5 increasing access to all basic services for families so a safety net is present if the resource is needed;
- 6a reducing television viewing and replacing it with more productive family activity;
- 6b including topics on how and why to read to young children in parenting classes;
- 7 increasing the quality of time families spend together; and,
- 10 channeling positive parental belief systems about being involved in their child's education into dialogue with the schools about the roles of schools and homes in creating schools that are culturally comfortable for families and schools.

Finding Other Lessons in the Data for Refining the System
Besides the above recommendations, two other lessons are present. They are the profile of a neighborhood in need and the community strengths that can be used as spring boards for the recommendations.

*A Profile of a Neighborhood in Need*
The profile lessons are not startling news. Similar accounts are documented all across the country. Not surprisingly, children are less likely to live in an environment that supports their full development if their school, neighborhood or homes exhibit one or more of the following characteristics:

- offer inconsistent programs;
- more than 20-25% free and reduced lunch eligible families with increasing risks as the poverty rate rises;
- non-English speaking populations;
- having a patch work of child care providers;
- not having regular access to early intervention screening and/or attending schools that do not have special help in grades K-1 for children who are less developed upon school entry:
- not being read to regularly; and,
- watching more than 1-3 hours of TV a day.

*Looking For Community Strengths To Build On*

There are also many good news lessons. These are just as important because they are community strengths that can be built upon. Each component part of the ecological model has strengths - children, families, schools, and the community. They are:

- children are generally well developed and close to national norms in their cognitive development, motor development, and physical well-being and so they can learn literacy skills and social skills;
- families have many basic needs which are well covered;
- parents are open and interested in being involved in their child's education and typically want to be involved in school governance in the same ways that schools want them to be;
- schools willingly participated in this study, wanted the opportunity to develop a more personal relationship with families and children, and also wanted to gain school-level information to answer questions they had;
- teachers are reaching out for early childhood information to guide their kindergarten practice;
- schools have been successful at making it comfortable for Spanish speaking families;
- there are schools, both public and private, that know their families well and have created a sense of school community; and,
- even though many families need to or choose to use a patchwork of child care arrangements, they perceive care providers as caring and nurturing with young children and open to ideas that will improve the quality of care in the community.

## Final Words of Caution in Applying Information From This Report

There are technical limits and cautions in this study, as there are in all studies. The first technical caution is that the sample used in this study was a non random representation of the types of schools, families, and communities in Washington County. Although carefully chosen, it is still a sample. The conclusions are intended as a guide for policy, not definitive statements.

A second technical caution is that the readiness factors may not all be of equal value. For some groups of children one factor may be more critical than the same factor for another group of children. So, although recommendations have been made for next steps, professional judgment should always temper decisions.

The technical cautions are not intended to discount the solid and useful model and methods used in this study, nor the information gained. Rather they are intended to remind users of the information that any objective investigation must always be a guide not a recipe.

Investigators learn to refine methods as well as finding new content. Now that a foundation of a workable model and methodology has been laid, one technical recommendation is offered for future data collection efforts.

Conducing a subjective probability process with a group of County experts to give best estimates of the contributing value of each factor in given situations would enhance the predictive power of future benchmarking projects.

Hard measures like this study should be repeated at some point in the future to document improvements. However, a minimum of five years of focused work will likely be needed to make changes this big. Given the acceptance rate of the families who participated, the schools' willingness to do the work of the study, the commitment of the Commission to fund the study and use the data for planning, and the community strengths identified in the study, the change is possible.

Concrete examples of how small things can have bigger payoffs comes directly from a teacher and principal participating in this study. They noted how much easier the first week of school went just because they were individually interviewing entering kindergarten children and families. Taking the time to build new individual relationships reduced the number of unsure people in the hallways. This positively impacted the climate in the rest of the school. Typically the first week of school has a frantic feel. Children and parents are figuring out where to go, how to get on buses, what the procedures are for lunch. Removing five year olds, who had never done any of this before, reduced the frenzied feeling to a manageable level. In turn, the next week also was easier because older children helped the five year olds learn the ropes. This single activity, with the goals of information and trust building, had an impact that went beyond the original intent.

The next steps are to take the recommendations and turn them into bigger things. Linking many small, but focused steps will create synergy to help Washington County reach it's school readiness benchmark goal: having the families, schools, and community jointly ensure five year old children are well developed for their age and make a smooth transition into kindergarten and their formal school years.

# Appendix

## Overview of Benchmarks by Readiness Factor With Details on Acceptable Scores and Distribution Issues

Washington County School Readiness Benchmark Study

## Overview of Readiness Factors
## With Details on Acceptable Scores and Distribution Issues

### Washington County School Readiness Benchmark Study

| Readiness Factor | Accept-able Score | % of Sample Below Acceptable Score | % of Sample in Acceptable Range | Distribution Issues | Policy Implications |
|---|---|---|---|---|---|
| #1 Child Cognitive Development | .68 | 16.5% | 83.5% | The number of children within the normal range is approximately the same as the national norm. However, there is a long lower tail containing almost 20% of the sample. The system may not be adequately identifying or targeting support for this low group. | Some children with special needs are hard to identify prior to school. So, both improved Child Find and improved early childhood special support in grades K-1 are likely to reduce the number in the low end and/or nurture them toward their optimal development before and shortly after school entry. |
| #2a Child Physical Well Being | .61 | 8.3% | 91.7% | There is a tight cluster around the normal range. This suggests that most health needs are being met. However, factor #5 suggests some families lack access to a few basic resources: vision care, dental care, general mental health, and help with violence support which may impact this factor. | No key systems issues at this time. Work on Factor 5 may increase the % at this factor. |

| Readiness Factor | Accept-able Score | % of Sample Below Acceptable Score | % of Sample in Acceptable Range | Distribution Issues | Policy Implications |
|---|---|---|---|---|---|
| #2b Child Motor Development | .72 | 24.6% | 75.4% | The number of children within the normal range is about the same as the national norm on this measure and approximately the same as in the Oregon Benchmark study. However, there is a long lower tail containing almost 25% of the sample. The system may not be adequately identifying or targeting support for this low group. | Some children with special needs are hard to identify prior to school. So, both improved Child Find and improved early childhood special support in grades K-1 are likely to reduce the number in the low end and/or nurture them toward their optimal development before and shortly after school entry. |
| #3 Child Emerging Literacy Development | .53 | 51.1% | 48.9% | Almost half of the sample is below the acceptable score. When this happens the system in place does not adequately support normal development. When a proportion this large is below the acceptable level, the entire system needs attention. A benchmark of at least 68% with a smaller range of scores would indicate a well functioning system. | The results suggest children are not being read to and/or exposed to books enough to support normal early literacy development throughout the system. Television and video tapes may be used as a lap reading substitute. Additionally, there may not be an adequate supply of Spanish children's books available. More reading, less television and video tapes, more parental and child care education on how to read to young children is a beginning. More community conversation about innovative promotion of age-appropriate literacy development needs to take place. |

| Readiness Factor | Acceptable Score | % of Sample Below Acceptable Score | % of Sample in Acceptable Range | Distribution Issues | Policy Implications |
|---|---|---|---|---|---|
| #4 Child Social Development | .80 | 31.1% | 68.9% | There is a small range of scores clustered above the acceptable level with about third below the acceptable level. This is cause for concern since children with low social skills are documented to have trouble with school and life skills. | Parent education, child care provider and teacher training across the County is likely to be the best way to increase this benchmark. Acknowledgment by state and local school policy makers (e.g., school boards, legislators, central administrators, site councils) of social development's important role in academic success may make it easier for teachers to balance their daily program to teach social skills in the context of daily routines. |
| #5 Family Access to Basic Resources | .94 | 32.2% | 67.8% | The acceptable score for this factor is high because of the nature of basic needs - they are basic. The lower tail is short, suggesting the families in need tend to only have a few needs not being met. A second level of analysis shows that families do not perceive adequate access to six resources:<br>31.9% domestic violence<br>30.2% drug and alcohol<br>20.2% mental health<br>18.6% dental<br>15.8% vision<br>13.5% parenting education<br>With the exception of domestic violence and substance abuse, unmet needs tend to break down along income lines. | There are three clear clusters of needs reported by families: Mental Health related support around domestic violence, general mental health, and substance abuse; Health related to vision and dental care; and, Parenting Education. The profile of needy school neighborhoods is lower income in general, however, support for domestic violence and substance abuse runs across all income levels. Strategies linking community services and health institutions to targeted neighborhoods can help along with encouraging business to offer these services in employee benefit packages. |

| Readiness Factor | Accept-able Score | % of Sample Below Acceptable Score | % of Sample in Acceptable Range | Distribution Issues | Policy Implications |
|---|---|---|---|---|---|
| #6a Child Television Viewing Habits in Family | .30 | 21.7% | 78.3% | The ECDF shows a large range in TV viewing habits in children. A second level of analysis was done to look at the breakdown of viewing habits:<br>• 18% watch less than one hour/day<br>• 60% watch 1-3 hours/day<br>• 10% watch 3-5 hours/day<br>• 12% watch more than 5 hours/day<br>Children in higher income schools watch the most TV and those that speak Spanish as their home language watch the least. | Large amounts of television viewing can impede early brain development and takes time from more productive activities like cooking together, family conversations, games, and lap reading. Professionals in health care, child care, schools, parent education, libraries, and media all can positively impact this factor if their energy is harnessed. Asking that alternatives to TV viewing be included in parent information in County institutions is one step. Support for media literacy is another. |
| #6b Family Reading Habits With Child | .65 | 35.8% | 64.2% | The ECDF shows there is a large range in family reading habits with children. A breakdown across all segments of the study sample of shows:<br>• 30% read to children daily<br>• 34% read to children 3 x week<br>• 30% read to children 1-2 x week<br>• 06% do not regularly read to children.<br>Private school families report a higher rate of regular reading to children but there is a wide range in all schools. | Reading to children on a regular basis is one of the best predictors of becoming a successful reader. Almost 36% of the children are not read to on a regular basis. Work in parent education, child care, library campaigns, family-friendly corporate policies, public awareness efforts, and more Spanish books in the community all need to occur to impact this factor. |

| Readiness Factor | Accept-able Score | % of Sample Below Acceptable Score | % of Sample in Acceptable Range | Distribution Issues | Policy Implications |
|---|---|---|---|---|---|
| #7 Family Activities and Routines | .60 | 4.9% | 95.1% | Almost all of the distribution is above the acceptable score. The few families below the acceptable scores do not maintain a regular schedule of routine events in their households. | Since the numbers below the acceptable level are small, there are no policy implications at this time. However, the importance of regularity in children's development can be included in parenting education, especially since this factor does not judge the quality of the time family report. |
| #8 Family Involvement in Child's Education | .85 | 5.4% | 94.6% | Almost all of the distribution is above the acceptable score. There is a very small lower tail, suggesting there are only a few families who view the topic in a dramatically different way than the bulk of the population. | Families in general think that it is important to be involved with their child's education in much the same way that schools do. This measure only looks at how important this factor is to people, not what they really do. However, schools can capitalize on parental belief systems to increase family participation. |
| #9 School Developmentally Appropriate Curriculum, Assessment, and Instruction | .74 | 94.4% | 5.6% | There is almost no variation in the scores for this factor. The telling point is the inconsistency within and between the teacher's raw scores. This is particularly true on items related to how best to deliver age-appropriate academics in kindergarten. When a pattern like this occurs, is it difficult to describe what being ready for kindergarten means from the school's perspective because there is no consistent answer. Teachers also report limited ECE specialized training. | The current school funding climate, coupled with the push to teach to standards, makes it likely that schools, feel under siege. Teachers openly talk about feeling pressured to teach in ways that do not reflect what research shows to be best kindergarten best practice. Increased support to the schools for focused ECE training and links to professional organizations, more systematic discussion about the unique kindergarten contribution to achieving standards in later grades, and how to best deal with the developmental variation found in children as they enter school are all important to improving scores on this factor. |

| Readiness Factor | Accept-able Score | % of Sample Below Acceptable Score | % of Sample in Acceptable Range | Distribution Issues | Policy Implications |
|---|---|---|---|---|---|
| #10 Culturally and Linguistically Appropriateness of Education | .79 | 77.4% | 22.6% | The shape of the ECDF suggests there may be multiple distributions warranting more analysis. Several second levels analyses were done:<br>• Teachers were found to view the school more critically than the parents.<br>• Distinct patterns of school culture show some schools tend to be more closely aligned with parental expectations while other are not.<br>• Spanish speaking families find schools the most sensitive, English speaking moderately so, and other language groups the least. | Schools would benefit from dialogue with families about social and cultural expectation. Parents and schools may not mutually recognize the differences in home and school orientations and needs. This is especially true for first-time-to-school families who may not understand the need for group behaviors and safety rules. Neither School nor Family view is right or wrong. However, when they are different, transitions can be difficult for children. Parent education and/or parent involvement, are possible avenues for sharing perspectives. Perhaps the most heartening data from this factor is that prior work on making schools comfortable for Spanish speaking families and children has paid off. |
| #11 Home-School Match of Involvement and Empowerment of Families | .56 | 5.6% | 94.4% | There is very small and long tail below the acceptable score. A second level of analysis show the difference to be isolated to one school. | Families and schools typically agree on how schools should be run and what power families should have in the school. The isolated discontented participants are best dealt with at the local level. School communities are the best ones equipped to handle this type of disagreement. |

| Readiness Factor | Accept-able Score | % of Sample Below Acceptable Score | % of Sample in Acceptable Range | Distribution Issues | Policy Implications |
|---|---|---|---|---|---|
| #12 Transition to Kindergarten | .59 | 23.6% | 76.4% | Although almost all of the children are in schools above the acceptable point, the shape of the ECDF suggests that there is variation at the school level. A second level of analysis shows that principals see more systematic transition activity than teachers. | The world of a teacher is often "ever so daily" while the world of principals is more oriented to the big picture. The way they define terms is often with this split. More communication between staff about what transition consists of and how to promote it will pay off with families. |
| #13 Access to High Quality Child Care in the Community | .82 | 36.5% | 63.5% | Minor differences were found by school communities. However, the number of child care transitions a child needs to make ranges from 0-12 with a median of 3. There is long tail to the upper end of the distribution with families having patchwork care. From birth to age two, 25% of families rely on more than one caregiver. During the preschool years, 50% use more than one caregiver. | Not all families think they have access to high quality child care with long-term, stable providers. Long-term relationships between providers, families, and children can positively impact children's brain development, and social, cognitive, and language development. Having stable, long-term child care arrangements also makes training child care workers easier. Access to care with fewer providers, as well as family-friendly employment policies surrounding care are likely to show gains on this factor. |

| Readiness Factor | Accept-able Score | % of Sample Below Acceptable Score | % of Sample in Acceptable Range | Distribution Issues | Policy Implications |
|---|---|---|---|---|---|
| #14 Collaborative and Integrated Services in Community Offered Through the School | .78 | 71.5% | 28.5% | The distribution shows that the acceptable score for this factor is just above the median. This suggests that with a small change, most schools would be in the acceptable range. Schools lack referrals for just a few of the services:<br>*# of Schools* — *Service*<br>5 — housing<br>3 — adult basic education<br>6 — employment opportunities | Link social service agencies to schools to ensure that all schools can help families connect with all social service agencies. When this factor is compared to Factor 5, Access to Basic Services, the data shows schools have referral sources for most of the services that families report lacking. The three services in question: housing, adult basic education, and employment supports are typical services in low income programs like Even Start and Head Start. Having collaborative agreements with "early-start-type" programs would be an easy way for schools to fill this small but critical gap for the few necessary families. |
| #15 Parenting Education Offered at or Through the School | .80 | 68.8% | 31.2% | Schools consistently offer a large number of parent education services. However, the raw data for this factor shows that the one parent education service not offered consistently is parent education classes. This means that with a small change, most schools would be in the acceptable range. | Work with schools to host either community-based parent education or school supported parent education. Given that social development scores are moderately low, TV viewing is high, literacy scores and reading habits are low, targeting this factor on these topics is likely to impact several factors. |

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